VOL-8 1912.

و عشرون و فى هذه السنة توفى كعب بن مالك احد شعراء النبى صلى الله عليه وسلم *

العشرة السادسة من المائة الاولى

ابو طلحة الانصارى توفى سنة احدى و خمسين و كذلك عمران بن الحصين سنة اثنين و خمسين و توفى زياد بن ابى سفيان سنة ثلاث و خمسين و كذلك فضالة بن عبيد و توفى حكيم بن حزام الذى ولد فى جوف الكعبة سنة اربع و خمسين و سنه مائة و عشرون سنة و نصفها فى الاسلام و فى هذه السنة توفى حويطب بن عبد العزى و سنه مائة و عشرون سنة و توفى الارقم ابن الارقم سنة خمس و خمسين و توفى اسامة بن زيد سنة ثمان و خمسين و كذلك سمرة بن جندب و توفى سعيد بن العاصى و جبير بن مطعم و ابو بردة و ابو جهم بن حذيفة و ابو هريرة و ابو محذورة المؤذن فى سنة واحدة و هى تسع و خمسين و توفى خالد بن شهاب الليثى سنة ستين و فيها توفى عبد الرحمن بن ابي بكر الصديق و معوية بن ابى سفيان و معقل بن اسيد الانصارى *

العشرة السابعة من المائة الاولى

الحسين بن على عليهما السلام توفى يوم الجمعة عاشر محرم سنة احدى و ستين و توفى النعمان بن بشير سنة اربع و ستين و كذلك الضحاك بن قيس الفهرى و توفى عبد الله بن عمرو بن العاصى سنة خمس و ستين و فيها توفى مروان بن الحكم و توفى عبد الله بن عباس الفقيه بالطائف سنة ثمان و ستين و صلى عليه محمد بن الحنفية و فيها توفى ابو واقد *

العشرة الثامنة من المائة الاولى

عبد الله بن عمر بن الخطاب رضى الله عنهما توفى سنة ثلاث وسبعين [1] و فى هذه السنة توفى عبد الله بن الزبير رضى الله عنهما و توفيت امه اسما

[1] مات بمكة بعد الحج و دفن بالمحصب وهو ابن اربع و ثمانين سنة *

بنت ابی بکر الصدیق رضی الله عنهم بعده بعشر سنین و توفی ابو عبد الله جابر بن عبد الله الانصاری سنة اربع و تسعین و سنه اربع و تسعون سنة و فیها توفی رافع بن خدیج و سلمة بن الاکوع و محمد بن حاطب القرشی و توفی ابو جعفر عبد الله بن جعفر بن ابی طالب سنة ثمانین و سنه تسعون سنة *

العشرة التاسعة من المائة الاولی

ابو امامة الباهلی توفی سنة احدی و ثمانین و توفی عبدالله بن ابی اوفی سنة ست و ثمانین و توفی عبید الله بن العباس بن المطلب سنة سبع و ثمانین *

العشرة العاشرة من المائة الاولی

محمد بن سعد الساعدی توفی سنة احدی و تسعین و هو ابن مائة سنة و توفی ابو الطفیل الکنانی سنة مائة من الهجرة و سنه یقرب من المائة وهو اخر من مات من الصحابة رضی الله عنهم و لم یبق احد بعده ممن رای النبی صلّی الله علیه و سلم و لم تخرج المائة الاولی الا علی انقراضهم رضی الله عنهم و حشرنا معهم *

فصل فی الفقهاء السبعة من التابعین

و توفی سعید[1] بن المسیّب سنة احدی و تسعین و توفی عروة بن الزبیر و ابوبکر بن عبد الرحمن سنة اربع و تسعین و توفی خارجة بن زید

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[1] قال الدینوری فی کتاب المعارف و کان مولد سعید لسنتین مضتا من خلافة عمر بن الخطاب رض و وفاته بالمدینة سنة اربع و تسعین انتهی و قال الذهبی فی تذکرة الحفاظ و قد اختلفوا فی وفاته علی اقوال اقواها سنة اربع و تسعین ارّخها الهیثم بن عدی و سعید بن عفیر و ابن نمیر وغیرهم و قال قتادة سنة تسع و ثمانین و قال یحیی القطان سنة احدی و تسعین و قال ضمرة سنة احدی او اثنتین و تسعین و قال علی بن المدینی و المدائنی سنة خمس ومائة قال الحاکم اکثر ائمة الحدیث علی هذا انتهی المصحح *

سنة مائة و توفى القاسم بن محمد بن ابى بكر سنة احدى و مائة و توفى سليمان بن يسار سنة سبع و مائة و توفى عبد الله بن عتبة بن مسعود سنة اثنين و مائة *

صل فيمن توفى فى المائة الاولى من فقهاء التابعين

منهم محمد بن الحنيفة سنة ثلاث و قيل احدى و ثمانين و كان يقول فى اخويه حسن بن على و حسين بن على هما خير منى و انا افقه منهما و توفى عبدالرحمن بن ابي ليلى ابو البختوى سنة ثلاث و ثلاثين و توفى عبد الملك بن مروان سنة ست و ثمانين و توفى علقمة سنة اثنين و ستين و هو خال ابراهيم النخعى و هو عم الاسود بن يزيد شهد صفين و كان الصحابة يسئلونه و كانت عائشه رضى الله عنها تعظمه و توفى مسروق الهمدانى سنة ثلاث و ستين و كان على بن ابيطالب يعظمه و توفى ابو مسلم الخولانى بعد سنة ستين فى ايام يزيد بن معوية و توفى عبيدة بن عمرو الفرضى سنة اثنين و سبعين و اسلم قبل وفاة النبى صلى الله عليه و سلم بسنتين و لم يره و توفى شريح القاضى سنة ثمانين و توفى قبيصة سنة ست و ثمانين و توفى على بن الحسين بن على رضى الله عنهم سنة اثنين و تسعين و توفى بشر بن سعيد سنة مائة و قال كان عبد الله بن عمر اذا ركبت ياخذ بركابى و يسوى علىّ ثيابى رضى الله عنهم *

المائة الثانية

العشرة الاولى

عمر بن عبدالعزيز توفى سنة احدى و مائة و توفى عطاء بن يسار سنة ثلاث و مائة و فيها توفى يحيى بن وثاب و توفى ابو سلمة بن عبد الرحمن ابن عوف سنة اربع و مائة و كذلك ابو قلابة و عامر الشعبى توفى سنة خمس و مائة و كذلك عكرمة صاحب ابن عباس و فى سنة ست و مائة

توفى سالم بن عبد الله بن عمر ابو العالية و فى سنة سبع و مائة توفى عطاء ابن يزيد الليثى و فى سنة عشر و مائة توفى محمد بن سيرين و الحسن ابن ابى الحسن البصرى *

العشرة الثانية من المائة الثانية

محمد بن على بن الحسين بن على بن ابى طالب رضى الله عنهم توفى سنة اربع عشرة و مائة و فيها توفى وهب بن منبة قارى الكتب القديمة و توفى عطاء بن ابى رباح سنة خمس عشرة و مائة و كان من الواسخين فى العلم و لازم الافادة و الفتيا مدة ثمانين سنة و كان اسود اعور افطس اشلّ اعرج فالعالم ليس بالجمال و لا بالمال و انما هو نور يضعه الله فى قلب من يشاء ممن يشاء من عباده و فى هذه السنة توفى الحاكم بن عتبة و اياس بن الأَكْوَع [1] و فى سنة سبع عشرة توفى عبد الرحمن الاعرج صاحب ابى هريرة و فيها توفى ميمون بن مهران و ابو رجا العطاردى و عبدالله بن ابى ملكية و قتادة و نافع مولى بن عمر و فى سنة ثمان عشرة توفى مكحول [2] و ابن عامر احد السبعة و فى التى قبلها توفى سليمان الاشدق و فى سنة عشرين و مائة توفى ابن كثير احد السبعة *

العشرة الثالثة من المائة الثانية

ابو بكر محمد بن شهاب الزهرى المدنى توفى سنة عشرين و مائة و كذلك زيد بن ابى انيسة و توفى عبد الرحمن بن القاسم بن محمد بن

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[1] قال الدينورى فى كتاب المعارف اياس بن سلمة بن الأَكْوَع يكنّى ابا بكر و توفى فى سنة تسع عشرة و مائة بالمدينة و هو ابن سبع و سبعين سنة المصحح *

[2] قال الذهبى فى تذكرة الحفاظ قال ابو مسهر و جماعة توفى مكحول سنة ثلاث عشرة و مائة و قال ابو نعيم و دحيم سنة اثنتى عشرة و قيل غير ذلك المصحح *

ابی بکر الصدیق رضی الله عنهم سنة ست و عشرین و مائة و کذلك عمرو بن دینار و فی التی تلیها توفی عاصم بن ابی النجود احد القراء السبعة و توفی عبد الله بن ابی لزناد صاحب الاعرج سنة ثلاثین و مائة و کذلك محمد بن المنکدر *

العشرة الرابعة من المائة الثانیة

ابو یسار عبد الله توفی سنة اثنین و ثلاثین و مائة و توفی عطاء الخراسانی سنة خمس و ثلاثین و توفی ربیعة بن ابی عبد الرحمن سنة ست و ثلاثین و مائة و توفی یزید بن اسامة سنة تسع و ثلاثین *

العشرة الخامسة من المائة الثانیة

حمید الطویل توفی سنة ثلاث و اربعین و مائة و کذلك یحیی ابن سعید الانصاری و توفی هشام بن عروة سنة ست و اربعین و مائة و توفی محمد بن عبد الرحمن بن ابی لیلی سنة ثمان و اربعین و مائة و کذلك سلیم الاعمش و کذلك جعفر الصادق بن محمد بن علی بن الحسین بن علی رضی الله عنهم و توفی محمد بن اسحاق صاحب المغازی سنة تسع و اربعین و مائة و کان الشافعی یعظّمه و توفی الامام ابوحنیفة و اسمه النعمان و سنه سبعون عاما سنة خمسین و مائة و کذلك عبد الملك ابن جریج *

العشرة السادسة من المائة الثانیة

ابو عمرو احد السبعة توفی سنة اربع و خمسین و مائة و توفی حمزة احد السبعة سنة ست و خمسین و الامام ابو مزید عبد الرحمن بن عمر الاوزاعی توفی سنة سبع و خمسین و مائة و فی هذه السنة توفی سفیان الثوری و شعبة بن الحجاج و حمزة و توفی عبد العزیز بن ابی اسامة الماجشون سنة ستین و مائة *

العشرة السابعة من المائة الثانية

حمّاد بن سلمة توفى سنة سبع و ستين و مائة و توفى نافع بن ابى نعيم القارى مودّب مالك بن انس سنة تسع و ستين و مائة *

العشرة الثامنة من المائة الثانية

ابو بكر بن سبرة توفى سنة اثنين و سبعين و مائة و توفى طليب بن مالك فى التى تليها و توفى الليث بن سعد سنة خمس و سبعين و مائة و فيها توفى ابو مسعود بن اشرس و كذلك الوليد بن مسلم و توفى شريك القاضى سنة سبع و سبعين و مائة و توفى امام دار الهجرة **مالك بن انس** سنة تسع و سبعين و مائة و سنه يقرب من تسعين و أخذ عنه العلم فى مدة تقرب من سبعين سنة رحمه الله و رضى عنه *

العشرة التاسعة من المائة الثانية

عبد الله بن المبارك توفى سنة احدى و ثمانين و مائة و كذلك عثمان بن كنانة و هو الذى جلس فى مجلس مالك بعد وفاته و فيها توفى ابن غانم صاحبه و فى سنة اثنين و ثمانين و مائة توفى محمد بن دينار صاحب ملك و فى هذه السنة توفى القاضى **ابو يوسف** صاحب ابى حنيفة و فى سنة ثلاث و ثمانين و مائة توفى على بن زياد بتونس و فيها توفى البهلول بن راشد و فى سنة ست و ثمانين و مائة توفى عبد العزيز الدراوردى و فى التى تليها توفى فضيل بن عياض و فى سنة ثمان و ثمانين و مائة توفى عبد العزيز بن ابى حازم و فى التى تليها توفى محمد بن الحسن الفقيه و الكسائى احد السبعة و فيها توفى المغيرة بن شعبة المخزومى صاحب مالك فى السجدة من صلاة الجمعة بمسجد النبي صلى الله عليه و فى سنة تسعين و مائة توفى سفيان بن عيينة *

العشرة العاشرة من المائة الثانية

عبد الرحمن بن القاسم العُتَقِي ناشر مذهب مالك بن انس توفى بمصر سنة احدى وتسعين ومائة وفي التى تليها توفى المحدث اسمعيل بن عُلَيَّة [1] وفى سنة اربع وتسعين ومائة توفى يحيى بن سعيد القطان [2] وفى التى تليها توفى الوليد بن مسلم وفي سنة سبع وتسعين ومائة توفى عبد الله بن وهب صاحب مالك وفيها توفى وكيع وفى هذه السنة توفى بمصر ورش عثمان القارى •

المائة الثالثة

العشرة الاولى

ابو سعيد صالح بن زياد القارى توفى سنة اثنين ومائتين والامام محمد ابن ادريس الشافعي سنة اربع ومائتين وولد فى السنة التى مات فيها ابو حنيفة وفيها توفى اشهب بن عبد العزيز واسمه مسكين مولده سنة خمس عشرة ومائة ودفن بجنب قبر ابى القاسم وفيها توفى زياد اللولوى وفى سنة ست ومائتين توفى عبدالله بن نافع صاحب مالك وكان امّيًا لا يكتب وفيها توفى قطرب النحوى صاحب المثلّث واخذ عن سيبويه وفى التى تليها توفى محمد بن عمر الواقدى وفى التى تليها توفيت الحرّة المشهورة نفيسة الطاهرة ويوم مات الشافعى ادخل اليها حتى صلت عليه •

العشرة الثانية من المائة الثالثة

الحافظ عبد الرزاق الفقيه بن همام توفى فى عشرة ومائتين وتوفى عبد الملك بن الماجشون سنة ثلاث عشرة ومائتين وكان اذا ناظر الشافعى

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[1] قال الدينورى مات اسمعيل بن علية سنة ثلاث وتسعين ومائة المصحح •

[2] فى كتاب المعارف وطبقات الحفاظ ان يحيى بن سعيد القطّان توفى بالبصرة سنة ثمان وتسعين ومائة المصحح •

لم يفهم احد كلامه من فصاحته و فى هذه السنة توفى عبد الملك بن هشام و فيها توفى ادريس بن ادريس الحسينى و فيها توفى اسد بن فرات صاحب الاسدية و فى سنة اربع عشرة توفى عبد الله بن عبد الحكم و فى سنة ست عشرة و مائتين توفى محمد بن مسلمة و فى سنة عشرين و مائتين توفى مطرف بن عبد الله بن الماجشون و كان به صمم و فى هذه السنة توفى قالون عيسى بن مينا القارى *

العشرة الثالثة من المائة الثالثة

اصبغ بن الفرج صاحب اشهب توفى سنة ست و عشرين و مائتين و فيها توفى عبد الرحمن بن احمد الدمياطى صاحب الدمياطية و فيها توفى ابو تمام حبيب بن اوس الطائى صاحب الحماسة و هو ابن خمس و ثلاثين سنة و فى التى تليها توفى بشر الحافى ببغداد و اسمعيل بن ابى اويس ابن اخت مالك ابن انس الفقيه و فى سنة ثلاثين و مائتين توفى على بن الجعد و هو اخر من روى عن محمد بن المنكدر رحمه الله *

العشرة الرابعة من المائة الثالثة

عبد الملك بن حبيب صاحب الواضحة توفى بقرطبة سنة اثنين و ثلاثين و مائتين و فى التى تليها توفى الراوية يحيى بن يحيى الليثى و فى سنة ثلاث و ثلاثين توفى ابراهيم بن راهويه و فى سنة اربعين و مائتين توفى ابو ثور و فيها توفى سحنون بن سعيد بالقيروان و اسمه عبد السلام و فيها توفى احمد بن محمد البزى و يروى عن ابن كثير *

العشرة الخامسة من المائة الثالثة

الامام المحدث احمد بن حنبل رضى الله عنه توفى سنة احدى و اربعين و مائتين و فى سنة اثنين و اربعين و مائتين توفى ابو مصعب من اصحاب مالك بن انس و فيها توفى عبد الله بن ذكوان القارى و فى التى

تليها توفى حرملة بن يحيى و الحارث بن اسد المحاسبى المذكور و فى سنة خمسين و مائتين توفى حفص القارى *

العشرة السادسة من المائة الثالثة

الامام المحدث العالم الحافظ محمد بن اسمعيل البخارى صاحب الجامع وغيره توفى سنة ست و خمسين و مائتين و فيها توفى الزبير بن بكار و فيها توفى محمد بن سحنون و توفى حبيش بن اسحاق المترجم سنة ستين و مائتين *

العشرة السابعة من المائة الثالثة

الامام المحدث مسلم بن الحجاج صاحب الصحيح وغيره توفى سنة احدى و ستين و مائتين و فيها توفى محمد بن عبدوس و فى سنة اربع و ستين و مائتين توفى ابو ابراهيم اسمعيل المزنى ناصر مذهب الشافعى و كان اذا فاتته الصلاة فى الجماعة صلاها خمسا و عشرين مرة *

العشرة الثامنة من المائة الثالثة

الامام المحدث ابو عبد الله محمد بن ماجة صاحب الجامع فى الحديث ادرك بعض اشياخ البخارى و توفى سنة ثلاث و سبعين و مائتين و توفى الامام الحافظ المحدث ابوداود سليمان صاحب السنن سنة خمس و سبعين و مائتين و فى التى تليها توفى الحافظ ابو محمد عبد الله بن قتيبة صاحب آداب الكتاب وغيره و بمقربة سنة ثمانين توفى قنبل القارى *

العشرة التاسعة من المائة الثالثة

محمد بن المواز الفقيه صاحب الموازية توفى سنة احدى و ثمانين بمصر و توفى العالم بعلوم الاوائل ثابت بن قرّة سنة ثمان و ثمانين و توفى محمد بن زيد المبرّد النحوى سنة ست و ثمانين و فى التى تليها توفى محمد بن وضاح و روايته عن يحيى بن يحيى الليثى *

العشرة العاشرة من المائة الثالثة

تعلب صاحب الفصيح وغيره توفى سنة احدى و تسعين و مائتين و توفى المحدث محمد بن نصر المروزى سنة اربع و تسعين و مائتين *

المائة الرابعة

العشرة الاولى

الامام المحدث الحافظ ابو عبد الرحمن احمد بن شعيب النسائى توفى سنة ثلاث و ثلاثمائة و توفى الفقيه ابو العباس احمد بن سريج سنة ست و ثلاثمائة و توفى ابو اسحاق الزجاج صاحب التفسير سنة عشر و ثلاثمائة و هو شيخ ابى القاسم الزجاجى صاحب الجمل و نسب الى شيخه الذى يخرط الزجاج واحدها زج بكسر الزاى تجعل فى اسفل الرمح و فى هذه السنة توفى الامام خالد الطبرى المفسّر *

العشرة الثانية من المائة الرابعة

[redacted]راج النحوى توفى سنة ست عشرة و ثلاثمائة و توفى المحدث الشهير ابو القاسم عبد الله بن محمد البغوى بفتح الغين المعجمة سنة سبع عشرة و ثلاثمائة و توفى محمد بن المنذر سنت تسع عشرة و ثلاثمائة و توفى المحدث الشهير ابو عبد الله محمد بن يوسف الفربرى سنة عشرين و ثلاثمائة و روى الجامع عن البخارى مرتين و قال انه رواه عنه تسعون الف رجل *

العشرة الثالثة من المائة الرابعة

الفقيه الاديب ابو عبد الله محمد بن دريد ناظم المقصورة توفى سنة احدى و عشرين و ثلاثمائة و توفى الامام ابوبكر بن الانبارى النحوى سنة ثمان و عشرين و ثلاثمائة و توفى ابو عبد الله نفطويه سنة ثلاث و عشرين و ثلاثمائة *

العشرة الرابعة من المائة الرابعة

الحافظ ابو على بن ابى هريرة وتوفى سنة خمس و ثلاثين و ثلاثمائة و توفى فى هذه السنة ابو بكر الصولى واضع العدد على بيوت الشطرنج و كان اماما فى العلوم و توفى الامام ابو عبدالله محمد بن القفال المتكلم سنة ست و ثلاثين و ثلاثمائة و توفى ابن النحاس النحوى سنة ثمان و ثلاثين و ثلاثمائة *

العشرة الخامسة من المائة الرابعة

الفقيه ابو عثمان سعيد بن عبدربه صاحب الرجز فى الطب وغيره توفى سنة اثنين و اربعين و ثلاثمائة و كان جميل المذهب و توفى القاضى ابو بكر ابن الحدّاد سنة خمس و اربعين و ثلاثمائة و فيها توفى ابوبكر بن حماسة بتخفيف الميم *

العشرة السادسة من المائة الرابعة

الفقيه ابوبكر بن اللباد توفى سنة اثنين و خمسين و ثلاثمائة و توفى محمد بن شعبان سنة خمس و خمسين و ثلاثمائة *

العشرة السابعة من المائة الرابعة

ابو الحسن محمد بن البصرى المعتزلى توفى سنة تسع و ستين و ثلاثمائة و توفى الامام ابوالحسن احمد بن فارس صاحب مختصر السير و الجمل فى اللغة وغيره سنة سبعين و ثلاثمائة *

العشرة الثامنة من المائة الرابعة

الامام الزاهد الحافظ ابو زيد محمد بن احمد المروزى توفى سنة احدى و سبعين و ثلاثمائة *

العشرة التاسعة من المائة الرابعة

على بن عيسى الرمّانى النحوى توفى سنة اربع و ثمانين و ثلاثمائة و توفى الامام المحقق على الدار قطنى ببغداد سنة خمس و ثمانين و

ثلاثمائة و فيها توفى الفقيه ابن ابى زيد و دفن بالقيروان و فى هذه السنة توفى ابو سعيد بن يحيى بن هشام و توفى الامام ابو سليمان الخطابى سنة ثمان و ثمانين و ثلاثمائة و فى التى تليها توفى ابوطالب محمد بن على المكى صاحب قوت القلوب و توفى الفقيه ابو محمد عبد الله الاصيلى سنة تسعين و ثلاثمائة *

العشرة العاشرة من المائة الرابعة

الفقيه ابو محمد عبد الخالق بن شبلون توفى سنة احدى و تسعين و ثلاثمائة و فى التى تليها توفى عثمان البتى و ابو محمد عبد الرحمن ابن ابى شريح و توفى سعيد بن نصر من رواة الموطا سنة خمس و تسعين و ثلاثمائة وهو ابن ثمانين سنة و توفى الفقيه ابو عبد الله ابن ابى زمنين صاحب الاحكام سنة تسع و تسعين و ثلاثمائة *

المائة الخامسة

العشرة الاولى من المائة الخامسة

الشيخ ابوالحسن القابسى توفى بالقيروان سنة ثلاث و اربعمائة و الامام المحدث ابو الوليد عبد الله بن محمد بن يوسف القرطبى تعلق باستار الكعبة و سال الله ان يموت شهيدا ثم ذكر الم الضرب بالحديد فبدا له و ندم و اراد المراجعة ثم قال استحييت من الله ان اراجعه فتوفى شهيدا بقرطبة سنة ثلاث و اربعمائة و توفى المحدث الشهير ابو عبد الله محمد بن عبد الله الحاكم صاحب علوم الحديث سنة خمس و اربعمائة و سنّه اربع و ثمانون سنة و توفى ابو حامد الاسفرائنى سنة ست و اربعمائة و توفى الحافظ ابو محمد عبد الغنى بمصر سنة تسع و اربعمائة و فى هذه السنة توفى الخطيب [1] بن نباته

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[1] قال ابن خلكان و هذا الخطيب لم ار احد من المورخين ذكر تاريخه فى المولد و الوفاة سوى ابن الازرق الفارقى فى تاريخه فانه قال ولد فى سنة خمس و ثلاثين و ثلاثمائة و توفى فى سنة اربع و سبعين و ثلاثمائة بميافارقين و دفن بها الصحيح *

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صاحب كتاب الخطب وكان راى النبى صلى الله عليه وسلم قبل موته بشهر وهو يدعوه بيده *

العشرة الثانية من المائة الخامسة

الشيخ الولى الصالح الفقيه صاحب الكرامات معرز بن خلف المؤدّب بتونس توفى سنة ثلاث عشرة و اربعمائة و دفن بداره بتونس نفع الله به *

العشرة الثالثة من المائة الخامسة

القاضى ابو محمد عبد الوهاب بن على بن نصر صاحب المعونة و التلقين توفى بمصر سنة اثنين و عشرين و اربعمائة و سنه اثنان و ستون سنة و من اشياخه ابو القاسم بن الجلاب و قال عبد الوهاب للامير الذى اعانه على على مطالبه جزاوك عندى ان اشكرك عند ربى بعد موتى - قال ذلك عند احتضاره و توفى اصبغ بن احمد صاحب العلوم الفلكية بغرناطة سنة ست و عشرين و اربعمائة و توفى العالم الرئيس ابو على بن سينا بهمدان سنة ثمان و عشرين و اربعمائة و توفى ابوالعباس الثعلبى صاحب التفسير سنة تسع عشرين و اربعمائة و فيها توفى القاضى يونس بن عبد الله بن مغيث الاندلسى من رواة الموطا و فى سنة ثلاثين و اربعمائة توفى الشيخ ابو عمران القابسى صاحب الحلية بالقيروان رحمه الله *

العشرة الرابعة من المائة الخامسة

الفقيه ابوبكر بن عبد الرحمن الفروى توفى سنة اثنين و ثلاثين و اربعمائة و قال بمحضر الناس هذا ملك الموت قد اقبل سالتك بالله الا ما رفقت بى فمات بسهولة عقب كلامه من غير توراخ رضى الله عنه و توفى الامام ابو ذر الهروى سنة خمس و ثلاثين و اربعمائة و توفى ابو الفرضى الشريف المتكلم سنة ست و ثلاثين و اربعمائة و توفى ابو محمد مكى بن ابى طالب صاحب التفسير و الاعراب سنة تسع و ثلاثين و اربعمائة و سمع كتاب التفسير على مولفه ابى عمرو الدانى سنة ثمان و ثلاثين و اربعمائة *

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العشرة الخامسة من المائة الخامسة

الشيخ الامام ابو اسحاق التونسى توفى سنة ثلاث و اربعين و اربعمائة •

العشرة السادسة من المائة الخامسة

القاضى ابو الحسين على الماوردى صاحب الاحكام السلطانية توفى سنة ست و خمسين و اربعمائة و فيها توفى ابو احمد على بن احمد الفارسى •

العشرة السابعة من المائة الخامسة

ابو القاسم السيورى توفى سنة اثنين و ستين و اربعمائة و توفى الامام الحافظ المحدث ابو عمر يوسف بن عبد الله بن محمد بن عبد البر الاندلسى سنة ثلاث و ستين و اربعمائة و سنه مائة غير سنتين و توفى ابو عبد الله سنة ثمانين و ثلاثمائة بعد وفاة ابيه محمد بسبعة اشهر و سن محمد هذا ثمانون سنة و فى سنة ثلاث و ستين هذه و اربعمائة هذه توفى الخطيب المحدث الشهير ابوبكر بن ثابت البغدادى و دفن بجنب قبر بشر الحافى بوصيته و فى سنة خمس و ستين و اربعمائة توفى الامام الشهير ابو القاسم القشيرى و فى التى تليها توفى الشيخ الفقيه الصالح ابو محمد عبد الله بن يحيى الشقراطسى و شقراطس قرية من عمل توزر و هو ناظم الشقراطسية و فى سنة ثمان و ستين و اربعمائة توفى الشيخ ابو الحسن على بن احمد الواحدى المفسر و فى سنة تسع و ستين و اربعمائة توفى الشيخ الصالح طاهر بن احمد بابشاذ النحوى شارح الجمل •

العشرة الثامنة من المائة الخامسة

الفقيه القاضى ابو الوليد سليمان بن خلف الباجى من باجة الاندلسى توفى بالمَرِيَّة سنة اربع و سبعين و اربعمائة و فى سنة ست و سبعين و اربعمائة توفى الشيخ ابواسحاق الشيرازى و فيها توفى الامام ابو عبد الله

ابن شريح بالحاء المهملة و الشين المعجمة صاحب كتاب الكافى فى القرأة و زاد عمره على المائة وله فى القرأة تواليف كثيرة و فى سنة ثمان و سبعين و اربعمائة توفى امام الحرمين ابو المعالى عبد الملك بن الشيخ العالم ابى يعقوب الجوينى شيخ الغزالى وغيره و جلس فى مجلس ابيه للتدريس و له ابن عشرين سنة *

العشرة التاسعة من المائة الخامسة

على بن عبد الغنى الحصرى صاحب القصائد و كتاب زهر الاداب وغيرها توفى بطنجة يريد الوصول من بلد القيروان الى اشبيلية و الى ابن عباد بها سنة ثمان و ثمانين و اربعمائة *

العشرة العاشرة من المائة الخامسة

الفقيه ابو محمد عبد الله بن محمد المعافرى توفى بالاسكندرية سنة ثلاث و تسعين و اربعمائة و توفى محمد بن فرج ملاى بن الطلاع سنة ثمان و تسعين و اربعمائة *

المائة السادسة

العشرة الاولى من المائة السادسة

الفقيه المحدث ابو العباس بن حضير بكسر الضاد توفى سنة اربع و خمسمائة و فيها توفى الامام ابو الحسن على بن الكيا بكسر الكاف و سئل عن لعنة يزيد بن معوية فقال لمالك و احمد و ابى حنيفة قولان و ليس عندنا الا قول واحد بالجواز نقله ابن خلكان و فى سنة خمس و خمسمائة توفى الامام **ابو حامد** محمد بن محمد **الغزالى** الطوسى و عند احتضاره دعى بكفنه و مسح به على وجهه و قال مرحبا بالقدوم على الملك و سئل عن لعنة يزيد فتوقف *

العشرة الثانية من المائة السادسة

الشيخ الصالح ابو الفضل بن النحوى بن الشيخ الصالح ابى الفضل اليشكرى توفى سنة ثلاث عشرة و خمسمائة و توفى ابو القاسم بن على **الحريرى** الاديب سنة ست‌عشرة و خمسمائة قال ابنه عبد الله ورد عليه رجل ليقرا عليه فقال له ماسمك فقال ابوزيد السروجى فصنع مقامه باسمه و توفى ابو الوليد بن رشد صاحب البيان وغيره بقرطبة سنة عشرين و خمسمائة و فيها توفى الامام ابو بحر سفيان بن العاصى و الاستاذ ابوبكر الطرطوشى و الشيخ المورخ ابومروان حيـــان بن حيـــان و فيها توفى **اخو الغزالى** احمد بن محمد بن محمد الطوسى و كان يدرس بمدرسة بغداد نائبا عن اخيه *

العشرة الثالثة من المائة السادسة

الامام ابو عبد الله محمد بن عبـد الله بن تومرت الامام المهـدى توفى بجبل تينمل سنة اربع و عشرين و خمسمائة و توفى المحدث ابو العلا بن زهر الايادى بن عبد الملك بن زهرسنة خمس و عشرين و خمسمائة و توفى المحدث عبد الغافر صاحب المفهم بصحيح مسلم سنة تسع و عشرين و خمسمائة *

العشرة الرابعة من المائة السادسة

ابو الحسن يونس بن محمد بن يونس بن مغيث توفى سنة اثنين و ثلاثين و خمسمائة و توفى الامام الاشمر ابو عبد الله محمد بن على المازرى المهدوى من اصحاب الشيخ ابى الحسن اللخمى سنة ست و ثلاثين و خمسمائة و سنه يقرب من تسعين و توفى محمود بن عمر **الزمخشرى** المفسر سنة ثمان و ثلاثين و خمسمائة *

العشرة الخامسة من المائة السادسة

القاضى ابو محمد عبد الحق بن عطية المفسر توفى سنة احدى و اربعين و خمسمائة بلوشة و توفى القاضى ابوبكر ابن العربى بخارج مدينة فارس سنة

ثلاث و اربعين و خمسمائة و توفى القاضى ابوالفضل عياض بن موسى اليحصبى السبتى بمراكش سنة اربع و اربعين و خمسمائة و توفى الكروخى سنة ثمان و اربعين و خمسمائة •

العشرة السادسة من المائة السادسة

المحدث ابو الوقت عبد الاول بن عيسى بن شعيب توفى سنة ثلاث و خمسين و خمسمائة و توفى الشيخ الفقيه الصالح ابوالحسن على بن حرازم بمدينة فارس سنة تسع و خمسين و خمسمائة و عنه اخذ الشيخ ابو مدين رضي الله عنهما •

العشرة السابعة من المائة السادسة

الشيخ الولى القطب ابو يعزّى عبد الله صاحب الكرامات توفى سنة احدى و ستين و خمسمائة و توفى ابو عبد الله محمد بن ظفر سنة خمس و ستين و خمسمائة و توفى الخطيب ابو الحسن بن النعمة سنة سبع و ستين و خمسمائة و فى هذه السنة توفى المحدث ابو محمد ابن الخشاب و فيها توفى محمد بن محمد الدورى صاحب الجدل و فيها توفى الكاتب الشهير ابو القاسم محمد بن ابراهيم بن خيرة صاحب ريحان الالباب وشارح المفصل وغيرهما فى سنة سبعين و توفى ابوبكر محمد بن محمد القمرى من اشياخ ابن زرقون سنة ثمان و ستين و خمسمائة •

العشرة الثامنة من المائة السادسة

الامام الصالح الاوحد فى علم الكلام ابو عمر الحلالجى صاحب البرهانية وغيرها توفى سنة اربع و سبعين و خمسمائة بمدينة فاس و توفى الفقيه القاضى بغرناطة ابو محمد عبد الله بن القاضى عياض سنة خمس و سبعين و خمسمائة و عرف فى تاليفه بابيه و فى التى قليما توفى الشيخ ابو الطاهر السلفى و عمره مائة و اربع سنين و كان اجاز لكل من ادركته حياته و سلفه بكسر السين المهملة قرية فى المشرق و توفى ابو البركات بن الانبارى سنة

سبع و سبعين و خمسمائة و توفى ابو القاسم بن بشكوال سنة ثمان و سبعين خمسمائة و توفى الشيخ الصالح الشهير ابو الحسن بن مخلوف سنة ثمانين و خمسمائة و دفن بداخل قسنطينة و لاعقب له و لاخيه عقب *

العشرة التاسعة من المائة السادسة

الفقيه الامام المحدث ابوالقاسم السهيلى توفى سنة احدى و ثمانين و خمسمائة و فى التى تليها توفى الشيخ ابو محمد بن برى النحوى و عنه قيد الجزولى فى العربية و فى هذه السنة توفى الشيخ الفقيه الخطيب القاضى ابو محمد عبد الحق بن عبد الرحمن الازدى الاشبيلى و له الاحكام فى الحديث و العافية فى التذكير و غير ذلك و توفى الفقيه عبد الله بن سعدون صاحب الجبر سنة خمس و ثمانين و خمسمائة و فى التى تليها توفى الفقيه ابو عبد الله محمد بن سعيد بن زرقون الاندلسى صاحب الانوار فى الجمع بين المتقى و الاستذكار و هو من تلامذة القاضى عياض و كانت وفاته باشبيلية و فى التى تليها توفى الفقيه ابو محمد عبد الحق بن بونة العبدرى و فى سنة ثمان و ثمانين و خمسمائة توفى الفقيه القاضى الزاهد ابوالقاسم الحوفى الفرضى و كان قوته فى مدة قضائه من صيد الحوت بيده و كان الامير يقوم بامر بغلته و لم يزد ثوبا على مرتعته و فى سنة تسع و ثمانين توفى الفقيه الضرير ابوالقاسم بن فيرّة الشاطبى صاحب حرز الامانى وغيره و كان بحفظ وقر بعير من العلم و كان اذا سئل عن مسئلة فى غير فن القراة يقول ليس للعميان الا حفظ القرآن *

العشرة العاشرة من المائة السادسة

الشيخ المحدث ابو محمد عبد الله بن عبدالله الحجرى السبتى من اصحاب القاضى عياض توفى سنة احدى وتسعين وخمسمائة و فى سنة اربع وتسعين توفى شيخ المشائخ ابومدين شعيب بن حسين الاندلسى و دفن بعباد تلمسان وهو من اشياخ الشيخ ابى محمد عبد العزيز المهدوى و البنا عبد الله و فى

سنة خمس و تسعين توفى الفقيه القاضى العفيد ابو الوليد بن رشد صاحب الهداية و النهاية و غيرهما و دفن بمراكش ثم نقل الى مقبرة سلفة بقرطبة و فى سنة سبع و تسعين و خمسمائة توفى العماد ابو القاسم الاصبهانى الشافعى و فى سنة ثمان و تسعين و خمسمائة توفى الامام ابو الفرج عبد الرحمن بن على بن الجوزى و عمره مائة و خمسة عشر سنة و ابتدا التاليف و هو ابن عشرة سنة *

المائة السابعة

العشرة الاولى منها

الفقيه الصالح الولى ابو العباس السبتى توفى بمراكش سنة احدى وستمائة و فيها توفى الامام ابو الحسن العسكرى الحنفى و فيها توفى الكاتب ابو محمد عبدالله بن الياسمين صاحب كتاب العدد بمراكش ذيلها فى منزله و فى سنة ست وستمائة توفى ابو الفضل ابن الاثير و فى سنة ثمان و ستمائة توفى الفقيه المغربى ابو عبد الله بن نوح المغافقى ببلنسية و فى التى تليها توفى ابو الحسن بن خروف الحضرمى النحوى الاشبيلى شارح الجمل من اشياخ الجزولى *

العشرة الثانية من المائة السابعة

الشيخ الفقيه الولى ابو زكريا الزواوى توفى ببجاية سنة احدى عشرة و ستمائة و فى سنة ست وستمائة توفى نجم الدين عبد الله بن شاس صاحب الجواهر و فيها توفى ابو موسى الجزولى النحوى بمراكش و فيها توفى الامام فخر الدين محمد بن عمر بن الخطيب الرازى المفسر وهو صاحب التفسير وغيره *

العشرة الثالثة من المائة السابعة

المحدث ابو سليمان داود بن حوط الله توفى سنة احدى و عشرين وستمائة و فى سنة خمس و عشرين توفى بتلمسان القاضى المحقق ابو عبد الله محمد بن عبد الحق التلمسانى صاحب المختار فى الجمع بين المنتقى

و الاستذكار و فى سنة سبع و عشرين توفى الفقيه القاضى المختار القاسم بن فرقد و فى التى تليها توفى القاضى الرواية ابو عبد الله بن حماد بتخفيف الميم وله النبذ المحتاجة فى اخبار منهاجة فى افريقية و بجاية *

العشرة الرابعة من المائة السابعة

سيف الدين الآمدى على بن ابى على صاحب الاحكام فى اصول الاحكام ومنه اختصر ابن الحاجب المنتهى ثم اختصره بمنتقى توفى سنة احدى وثلاثين و ستمائة و توفى الفقيه المحدث ابو الحسن بن خيرة خطيب بلنسية سنة اربع وثلاثين وستمائة و فى هذه السنة توفى الشيخ الحافظ ابو الربيع سليمان بن سالم الكلاعى شيخ ابن الابارى و القاضى ابن القصار و فى سنة سبع وثلاثين و ستمائة توفى الشيخ الفقيه الولى ابو الحسن الحرالى و له تواليف فى كل فن من فنون العلم *

العشرة الخامسة من المائة السابعة

ابو عمرو عثمان بن الصلاح صاحب كتاب علوم الحديث و تفقه على ابيه توفى سنة اثنين و اربعين وستمائة و فى هذه السنة توفى عياض بن محمد ابن القاضى عياض بن موسى بمالقة و فى هذه السنة توفى ابو عيسى ابن الشداد بمرسية و فى سنة خمس و اربعين توفى الشيخ النحوى ابو على عمر الشلوبين و فى سنة سبع و اربعين و ستمائة توفى الشيخ الفقيه المحصل المدرك ابو عمر و عثمان بن الحاجب صاحب المختصرين العجيبين وغيرهما *

العشرة السادسة من المائة السابعة

ابو الحسن بن قطرال المراكشى توفى سنة احدى و خمسين و ستمائة و توفى الفقيه الرواية ابو الحسن بن ابى نصر البجائى سنة اثنين و خمسين و توفى تاج الدين محمد بن الحسن الاربولى مولف الحاصل من المحصول سنة

ثلاث و خمسين و ستمائة و فى التى تليها توفى المقرى ابو عثمان بن زاهد البلنسى ببجاية و توفى الشيخ الولى ابو الحسن الشاذلى بارض الحجاز سنة ست و خمسين و فى التى تليها توفى ببجاية الشيخ الرواية ابو الحسن ابن السراج الاشبيلى و سنه يقرب من المائة و فى سنة ثمان و خمسين توفى شهيدا بتونس الفقيه المحصل الكاتب المحدث الكامل ابو عبد الله محمد ابن الابار البلنسى و عرف فى بعض تواليفه بابيه و وصفه بالعلم والخير و قال لا ازكيه بما ليس فيه من ذلك و فى سنة تسع و خمسين و ستمائة توفى الفقيه الحافظ المحدث ابو عبد الله محمد بن احمد بن سيد الناس اليعمرى الاشبيلى و حدث عن ابيه عن ابى عبد الله بن زرقون عن ابى محمد بن عتاب و بمقربة من هذه السنة توفى المجتهد ابو محمد عبد العزيز عز الدين ابن عبد السلام شيخ القرافى و ابن دقيق العيد و غيرهما *

العشرة الرابعة من المائة السابعة

المحدث ابو عبد الله بن برطلة و ادراكه الشيخ ابو اسحق بن عبد الربيع التونسى توفى سنة احدى وستين وستمائة و ابو الحسن على بن على ابن ميمون بن القنفذ جد الخطيب والد والد والده توفى سنة اربع و ستين وستمائة وكان عمدة تدريسة بقسطينة الحديث و من طرقه روايته عن ابى يعقوب الغمارى عن ابى على البجاوى عن ابى الطاهر بن عوف عن الاستاذ ابى بكر الطرطوشى عن القاضى ابى الوليد الباجى عن اشياخه بسنده و توفى المحدث ابو الحسن على بن النعمة سنة سبع و ستين و ستمائة و فيها توفى ابو الحسن بن عصفور النحوى غريقا بتونس *

العشرة الثامنة من المائة السابعة

الفقيه النحوى ابو عبد الله بن مالك صاحب التسهيل وغيره توفى سنة اثنين و سبعين و ستمائة و فيها توفى قاضى بجاية ابو اسحق التجيبى

و فی سنة خمس و سبعین توفی الفقیه ابو محمد عبد الحق بن رفیع البجاوی ببجایة *

العشرة التاسعة من المائة السابعة

الفقیه القاضی المحدث ابو فارس عبد العزیز بن کحیلة البجاوی توفی سنة خمس و ثمانین و ستمائة *

العشرة العاشرة من المائة السابعة

القاضی بحاضرة تونس ابو العباس احمد بن الغماز الاندلسی توفی سنة ثلاث و تسعین و ستمائة و اکثر اخذه عن ابی الربیع سلیمان بن سالم الکلاعی و توفی المحدث الخطیب بجامع بجایة مدة ثلاثین سنة لم تفته فیها جمعة ابو عبد الله محمد بن صالح الکنانی الشاطبی سنة تسع و تسعین و ستمائة و فی هذ السنة توفی الشیخ العالم الصالح ابو محمد المرجانی بتونس و فی سنة سبعمائة توفی قاضی الانکحة بتونس الفقیه الزاهد ابو الطاهر ابن سرور شارح المعالم الفقهیة و بمقربة من هذه السنة توفی شرف الدین البوصیری ناظم القصیدة التی یقال لها البردة فی مدح من هو خیر عدّة صلی الله علیه و سلم *

المائة الثامنة

العشرة الاولی منها

الفقیه المحدث الجلیل الشهیر الفاضل قاضی الجماعة ببجایة ابو العباس احمد بن محمد الغبرینی صاحب عنوان الدرایة وغیره توفی سنة اربع و سبعمائة شهیدا و فی هذه السنة توفی ابو الحسن القرافی و فی سنة سبع و سبعمائة توفی فقیه الشیوخ ابو زید المزمیری بمدینة فاس و توفی الفقیه الادیب ابو عبد الله بن حمید التونسی سنة ثمان و سبعمائة *

العشرة الثانية من المائة الثامنة

الشيخ الصالح ابو العزم ماضى بن سلطان صاحب الشيخ ابى الحسن الشاذلى توفى سنة ثمان عشرة و سبعمائة و عنه اخذ الشيخ ابو عبد الله البطرنى التونسى اذكار الشاذلى و ادعيته و اخذتها انا عن البطرنى المذكور *

العشرة الثالثة من المائة الثامنة

الشيخ المحقق ابو العباس احمد بن عثمان بن البنا المراكشى العددى توفى بمراكش سنة احدى و عشرين و سبعمائة و توفى الخطيب الرواية ابو عبد الله محمد بن على المرسى ببجاية سنة ثمان و عشرين و سبعمائة *

العشرة الرابعة من المائة الثامنة

الشيخ الفقيه العالم ابو على منصور بن احمد المشدالى يعرف بناصر الدين اخذ عن عز الدين بن عبد السلام وغيره توفى ببجاية سنة احدى و ثلاثين و سبعمائة و سنه مائة و فى هذه السنة توفى خطيب قصبة بجاية المتمتع بالدارية و الرواية ابو عبد الله محمد بن محمد بن عزون البجاوى و فى سنة ثلاث و ثلاثين و سبعمائة توفى قاضى الجماعة بحضرة تونس ابو اسحاق بن حسن بن عبد الرفيع الربعى التونسى صاحب معين الحكام و سنه يقرب من مائة و فى هذه السنة توفى الجد والد والدى على بن حسين بن القنفذ و كانت مدة خطبته بقسنطينة بلده نحوا من خمسين سنة و تقلد حظة القضاء بها مرة فاستعفى فعوفى و كانت به وسوسة فى شان عبادته بلغت به انه اذا قبل احد طرف ثوبه حبسه بيده ليغسله و امر مرة بخروج منبر الجامع حتى طهر له من صعود غيره عليه ولقى اعلاما و فى سنة اربع و ثلاثين و سبعمائة توفى القاضى ابو زكريا بن محمد بن الشيخ بن زكريا بن يحيى بن عصفور الغذرى بتونس وروى عن جده المذكور وغيره و فى التى تليها توفى الشيخ الفقيه الاديب ابو الحسن بن عسيلة بقفصة و فى سنة ست و ثلاثين و سبعمائة

توفى الشيخ الفقيه ابو عبد الله محمد بن راشد البكرى القفصى بتونس و اخذ عن شهاب الدين القرافى وغيره فى العشرة الثامنة من المائة السابعة وله مصنفات منها شرحه لمختصر ابن الحاجب و منها الفايق فى الاحكام و الوثايق فى سبعة اسفار وغير ذلك وفى سنة تسع وثلاثين و سبعمائة توفى ابو الفتح بن منعة الشافعى •

العشرة الخامسة من المائة الثامنة

الامام المحدث الصالح ابو العباس احمد بن فرحون نزيل مدينة النبى صلى الله عليه وسلم من تلامذة ابى محمد المرجانى و ابى العباس البطرينى توفى بتونس سنة و اربعين و سبعمائة و توفى الشيخ المحدث ابو عبد الله محمد بن يحيى الباهلى المفسر البجاوى ببجاية سنة اربع و اربعين و سبعمائة و فى التى تليها توفى الشيخ **ابو حيان** النحوى بالقاهرة المحروسة وفى التى تليها توفى محمود بن ابى القاسم شمس الدين **الاصبهانى** شارح مختصر ابن الحاجب فى الاصول بالقاهرة و فى هذه السنة توفى بمدينة فاس الشيخ الحافظ ابو زيد عبد الرحمن بن عفان الجزولى الذى تنسب اليه شراحات الرسالة وهى من تقييدات الطلبة بمجلسه رحمه الله و فى سنة سبع و اربعين توفى ببجاية الشيخ ابو عزيز بن محمد بن على البجائى و فى هذه السنة توفى الشيخ ابو هادى مصباح بن سعيد الصنهاجى بقسنطينة و دفن بزاوية بها و فى سنة تسع و اربعين و سبعمائة توفى الشيخ الرواية المحدث الكاتب ابو محمد عبد المهيمن الحضرمى السبتى ومن اشياخه الاستاذ ابو الحسن الربيع و ابن الغماز و ابى صالح الكنانى وغيرهم من الاعلام و فى سنة خمسين و سبعمائة وقع **الوبا العام** فى الارض و توفى فى هذه السنة كثير من الفقهاء و ممن توفى فى قطرنا فى هذه السنة الشيخ الفقيه القاضى ابو عبد الله محمد بن عبد السلام الهوارى شارح مختصر ابن الحاجب بتونس و الشيخ المفتى بتونس ابو عبد الله محمد بن هارون شارح مختصريه و فى هذه السنة توفى الخطيب والدى حسن بن على و من اشياخه

ابوعلى ناصر الدين البجائى و ابن عزيز و ابوحيان النحوى و شمس الدين الاصبهانى و ابو على بن حسين البجائى وبسبب فتنة هذا الوبا و اختلاف طلبته فى الفرار منه الّف كتابا سماه المسنون فى احكام الطاعون و له المسائل المسطرة فى النوازل الفقهية و فى هذه السنة توفى الشيخ الصالح ابو عبد الله الصبار و دفن فى مسجده بداخل باب القنطرة من ابواب بلدنا و هو من تلامذه جده للام •

العشرة السادسة من المائة الثامنة

الشيخ الفقيه القاضى ابو موسى بن فركان توفى ببجاية شهيدا غلطا من الضارب سنة ثلاث و خمسين و سبعمائة و فى سنة اربع و خمسين و سبعمائة توفى ببجاية الفقيه المحصل ابو على حسين وله شرح على المعالم و فى سنة خمس و خمسين سبعمائة توفى ببلدنا الفقيه المتفنن ابو القاسم بن الحاج عزوز من بنى علناس وله مختصر فى الفرائض وله غير ذلك و فى سنة ثمان و خمسين و سبعمائة توفى بمدينة فاس الشيخ الفقيه القاضى الرواية ابو عبد الله محمد بن عبد الرزاق و كان له سند صحيح و قلم فصيح و فى سنة ستين و سبعمائة توفى الشيخ خليل امام حرم مكة محمد بن عبد الرحمن المالكى المفتى فى مسائل الحج وغير ذلك •

العشرة السابعة من المائة الثامنة

الشيخ الرواية المحدث بالحرم الشريف صلاح الدين ابو سعيد القدسى توفى سنة احدى وستين وسبعمائة روى عنه عدد كثير من اهل العلم فى هذه السنة و توفى الاستاذ البليغ فى علم القراة ابو عبد الله محمد بن الصفار المراكشى بمدينة فاس و فى هذه السنة توفى شيخنا قاضى الجماعة بغرناطة حرسها الله ابو القاسم محمد بن احمد الشريف الحسنى و كتب لى الاجازة العامة بعد التمتع بمجلسه وله شعر مدون سماه جهد المقل وله شرح على الخزرجية فى العروض و قدم عليها بعد ان عجز الناس عن فكها وكان اماما فى الحديث و الفقه و النحو وهو على الجملة ممن يحصل الفخر بلقائه و لم يكن احد

بعده بالاندلس و فی سنة اربع و ستین و سبعمائة توفی جدی للام والد الوالدة یوسف بن یعقوب العلاری و سنه اربع و ثمانون سنة و دفن بزاویة بعلاره علی مرحلتین الی المغرب من قسنطینة و کان سلوکه فی التصوف علی ید والده و بینه و بین الشیخ ابی مدین فی لبس الخرقة وغیرها رجلان عز بن عریف عن ابی مدین عن ابن حوازم عن القاضی ابی بکر بن العربی عن الغزالی عن امام الحرمین ابی المعالی عن ابی طالب المکی عن الجنید عن خاله سری السقطی عن معروف الکرخی عن داؤد الطائی عن حبیب العجمی عن الحسن البصری عن علی بن ابیطالب رضی الله عنه عن النبی صلی الله علیه و سلم عن جبرائیل عن رب العزة جل جلاله هکذا نقلته سنة ثمان و خمسین و سبعمائة و فی سنة خمس و ستین و سبعمائة توفی الشیخ الفقیه الورع الولی ابو العباس احمد بن عاشر بمدینة سلا و بها الفیته سنة ثلاث و ستین و هو علی اتم حال فی الورع و الفرار عن الناس و التمسک بالسنة و فی سنة ثمان و ستین و سبعمائة توفی الشیخ المحدث ابو محمد عبد العزیز بن جماعة الکنانی الشافعی بالقاهرة و فی هذ السنة توفی قاضی الجماعة بمراکش الشیخ العالم التالی لکتاب الله دائما ابو محمد عبد الله المرکفونی حضرت درسه بمراکش التفسیر و الحدیث و الفقه و لم یکن فیها مثله فی زمانه رحمه الله و فی التی تلیها توفی خطیب جامع المنصور بمراکش الشیخ الصالح المسن ابو اسحاق ابراهیم الشریف حفید القاضی ابی عبد الله محمد بن یحیی الحسنی صاحب کتاب الفرائض وغیره و رایت السلطان بمراکش یقصده بعد الفراغ من صلاة الجمعة لیقبّل یده وهو یتفلت منه کالمتحول من النجاسة •

العشرة الثامنة من المائة الثامنة

شیخنا الامام ابو عبد الله محمد الشریف الحسنی التلمسانی شارح الجمل فی المنطق توفی فی غالب ظنی سنة احدی و سبعین و سبعمائة بتلمسان و توفی شیخنا الشیخ المتفنن الصالح ابو زید عبد الرحمن ابن الشیخ الفقیه ابو الربیع سلیمان الحجائی سنة ثلاث و سبعین بمدینة فاس

و شيخه ابو العباس ابن البنا و حاز عنه علومه بتحقيق و افادنا هو جملة منها و والده سليمان اللجائى هو الذى ادخل مختصر ابن الحاجب فى الاصول الى المغرب و عنه اخذ و توفى شيخنا و مفيدنا طريقة الشيخ الحافظ ابو عمران موسى بن محمد بن معطى الشهير بالعبدوسى سنة ست و سبعين و سبعمائة بكناسة الزيتون و كان له مجلس فى الفقه لم يكن لغيره فى زمانه و لازمته فى درس المدونة و الرسالة بمدينة فاس و توفى شيخنا الفقيه المحقق الحافظ ابو العباس احمد بن القباب سنة سبع و سبعين و سبعمائة وله شرح حسن على قواعد القاضى عياض و شرح على بيوع بن جماعة التونسى و لازمت درسه كثيرا بمدينة فاس فى الحديث و فى هذه السنة توفى شيخنا و سندنا الحافظ المفتى بمدينة فاس ابو محمد عبد الله الوانغليلى الضرير من تلامذة ابى الربيع اللجائى قرات عليه مختصر ابن الحاجب فى الاصول و الجمل فى المنطق و حضرت مدة درسه فى المدونة و فى سنة تسع و سبعين توفى قاضى الجماعة بمدينة فاس ابو عبد الله محمد بن احمد بن عبد الملك الفشتالى من اشياخ ابن القباب المذكور و كان له عقل و سمت لم يكن لغيره من القضاة و كان له مجلس جليل فى العلم و شيخنا الفقيه الجليل الخطيب ابو عبد الله محمد بن الشيخ الصالح ابى العباس احمد بن مرزوق التلمسانى توفى فى غالب ظنى سنة ثمانين و سبعمائة بالقاهرة و دفن بين ابى القاسم و اشهب و كان له طريق واضح فى الحديث و لقى اعلاما و اسمعنا حديث البخارى وغيره فى مجالس مذكورة و لمجلسه لياقة و جمال و له شرح جليل على العمدة •

العشرة التاسعة من المائة الثامنة

شيخنا الاستاذ ابو عبد الله محمد بن جيلة توفى بمدينة فاس سنة احدى و ثمانين و سبعمائة و كان له تحقيق فى النحو و القراءة و طلب منه بعض الناس ان يقرا عليه الجزولية فى النحو فاخذها الاستاذ فى يده و قصد شيخنا و مفيدنا ابا العباس احمد بن السماع المراكشى لمعرفته بفن المنطق و قرا

عليه استفتاحها فى الجنس و النوع و انا حاضر ثم قراها فى عشية يومه ذلك و هذا من انصافه و تحقيقه رحمه الله و توفى شيخنا الفقيه الحاج ابو على حسن بن خلف الله بن بادسى بقسنطينة بلده سنة اربع و ثمانين و سبعمائة و روايته عن ابن غريون وغيره ومن اشياخه ابن عبد السلام و فى سنة سبع و ثمانين و سبعمائة توفى الفقيه ابو على حسن ابن ابى القاسم و روايته عن ناصر الدين المشدالى وغيره و ابن غريون البجائى و ابن عبد الرفيع التونسى وغيرهم و فى الاخير عن صلاح الدين المقدسى و خليل المكى و ابن هشام النحوى وكانت ولادته سنة احدى و سبعمائة و له تقائيد منها شرحه لمختصر السير لابن فارس و ادرك فى حداثة سنه المعارف العلمية ما لم يدرك غيره و لغلبة الانقباض عليه قل النفع لديه و اجازنى مروياتى مدرك حياته و فى سنة ست و ثمانين و سبعمائة توفى الفقيه الصالح المفتى ابو زيد عبد الرحمن الوغليسى ببجاية وتوفى المحدث المجيد المقرى قاضى الجماعة ببجاية ابو العباس احمد بن ابى القاسم ابن ابى عمار المسلى سنة سبع و ثمانين او بمقربة من ذلك •

العشرة العاشرة من المائة الثامنة

شيخنا الاستاذ الخطيب المجيد الصالح ابو الحسن بن محمد بن الشيخ الفقيه الشهير الرواية ابو العباس احمد البطرينى والعامة تقول عوض ابى الحسن ابا عبد الله و هو احرى بالكنية الاخرى توفى ببلدة تونس سنة ثلاث و تسعين و سبعمائة و ابتداء الرواية عام تسعة و سبعين و سبعمائة تمتعت به بتونس سنة سبع و سبعين و سبعمائة •

المائة التاسعة

العشرة الاولى منها

شيخنا الامام الحجة ابو عبد الله محمد بن محمد بن مرقة الدرعمى نسبا التونسى بلدا توفى بتونس فى جمادى الاخرى سنة ثلاث و ثمانمائة و تولده

سنة سبع عشرة و سبعمائة او قبلها بسنة و له مصنفات ارفعها المختصر الكبير في فروع المذهب قرات عليه بعضه و انعم بمناولته و اجازته و ذلك في سنة سبع و سبعين و سبعمائة بدويرة جامع الزيتونة و وجدته على حال اجتهاد في العلم و القيام بالخطبة ثم لقيته قبل وفاته بسنة و به ضعف و بعض نسيان و بلغت مدة امامته بجامع الزيتونة خمسين سنة رحمه الله و نفع به و توفي الفقيه النبيه الحافظ ابو على عمر بن نصر بن صالح البلقيني بالقاهرة سنة ست و ثمانمائة و ولد على ما اخبرني سنة اربع و عشرين و سبعمائة و توفي الفقيه الحافظ الاستاذ الجليل ابو عبد الله محمد بن عبد الرحمن المراكشي الضرير من اهل بلدنا بجبونة في آخر ذي حجة مكمل عام سبعة و ثمانمائة و كانت ولادته سنة تسع و ثلاثين و سبعمائة **وهذا** آخر الغرض مما قصدته و لا يخفى على ذي غرض اقتراحي في ذلك و من اغفلته فعلى طالبه البحث عنه *

فصل اعلم ان لكتب الموضوعة المشهورة في الحديث حروفا جعلت عليها علامات فللموطا **ط** و للبخاري **خ** و بخاري بلده و لمسلم **م** و للنسائي **ن** و نسا بلده و للترمذي **ت** و ترمذ بلده و لابي داود **د** و كل محدث فقيه و لاعكس **قال** الشيخ ابو طاهر السلفي رحمه الله سالت شيخنا الامام ابا الحسن علي بن محمد الطبري المعروف بالكيا ببغداد في اخر المائة الخامسة عن رجل اوصى بثلث ماله للفقهاء الذين ببلده ايدخل الحديث في ذلك ام لا **فاجاب** بخط يده رحمه الله **نعم** و كيف لا وقد قال النبي صلى الله عليه وسلم من حفظ على امتي اربعين حديثا بعثه الله يوم القيمة فقيها فالحديث فقه **واعلم** ان في كتابة الحديث فضيلة عظيمة كقرائته لما في الحديث من ذكر الصلاة على النبي صلى الله عليه وسلم و مذموم غير جائز من جعل موضعها في الكتب صادا و سيذا *

فصل و اعلم ان طلب الاجازة و الرواية من شان اهل العلم و كذلك معرفة افاضل الائمة من صحابي و تابعي و فقيه و من الكمال تاريخ موتهم و ولادتهم ليتبين من سبق ممن لحق و قد **اخبرني طالب** من الطلبة

عن مجلس عظيم اختلف فيه صاحب الدرس و آخر فى مالك بن انس و مسلم بن الحجاج ايهما سبق بالوفاة فقال صاحب الدرس مسلم سبق و قال الآخر مالك سبق و الصواب معه و الخطا مع صاحب الدرس و معرفة هذه الامور تخرج الطالب من ظلمة الجهل و كذلك معرفة من روى عنه شيخ و لم يرو عنه آخر و عدد من اخرج عنه البخارى و لم يخرج عنه مسلم اربعمائة رجل و ثلاثون رجلا و عدد من اخرج عنه مسلم و لم يخرج عنه البخارى ستمائة رجل و عشرون رجلا *

فصل اعلم ان معرفة الكتب و اسماء المؤلّفين و معرفة المؤلّفين من الكمال و معرفة طبقات الفقهاء و ازمانهم من مهمات المطالب و كذلك ما الّف فى عصر السائل و قد سالنى رجل عما وقع لى من التواليف ليكتب ذلك فى رحلته فاملیت عليه من ذلك ما صادف الوقت زمانه لحرصه على هذه المسالك و لنسردها هيهنا تكملة للغرض فمنها تقريب الدلالة فى شرح الرسالة فى اربعة اسفار *

و قد عدد المصنف مولفاته و لا غرض لى بذلك ثم قال فى آخر ذلك و قد اذنت لمن رآنى او راى من رآنى و هما درجتان ان يحدّث عنى ان شاء مما شاء من مصنفاتى او ما صحّ لديه من مروياتى و الله الموفق *

و تمت كتابة هذه الرسالة فى ظهر يوم الثلاثا ١١ شوال سنه ١١٠٩ على يد الفقير ابى طاهر ابراهيم الكورانى الاصل المدنى المنشا و المولد عفى الله عنه و عن ابائه و اقاربه و المسلمين امين

2. Some Recent Advances in our Knowledge of the Freshwater Fauna of India.

(A lecture delivered before the Asiatic Society of Bengal on the evening of March 27th, 1912.)

By N. Annandale, D.Sc., F.A.S.B.

Until a few years ago it was no exaggeration to say that, except as regards the fish and shells, we knew far more about the animals which live in the Bay of Bengal at a vertical depth of two miles than we did of those of the Calcutta tanks. Since I became Superintendent of the Indian Museum a little more than five years ago it has been my ambition, without neglecting marine work, to do for the study of the freshwater fauna of India what my predecessor, Colonel Alcock, did for that of the abyssal fauna. Of course five years is a very short time in which to carry out any scientific project, and to survey an area so vast as the Indian Empire would take the lifetime of many naturalists. Nevertheless, although the results as yet are not and could not be comprehensive, they will, I hope, prove a useful starting-point for what still remains to be done. To-night I propose first to give a rapid summary of what we know of the freshwater fauna of India from a systematic point of view, noticing some recent discoveries in each of the more important groups, and then to discuss in rather greater detail certain problems to which I have myself devoted special attention. These problems are (1) the biological relations between different kinds of freshwater animals; (2) seasonal changes in the life-cycle of the lower freshwater invertebrates, and (3) the direct effect of environment on plastic organisms such as freshwater sponges. It is not yet possible to deal in a satisfactory manner with the geographical distribution of the Indian freshwater fauna as a whole.

I.

The only Indian mammal that is a permanent denizen of fresh water is the Gangetic Porpoise (*Platanista gangetica*), a highly specialized form that occurs also in the Indus. As it never visits the sea, the fact that it inhabits two rivers which now flow in opposite directions is a proof that these rivers were united at a not very remote period.

It is natural that fish should have attracted more attention in the past than any other aquatic group of animals, and a hundred years ago Hamilton (or, as he at one time called him-

self, Buchanan) studied those of the Ganges [1] in a manner that was unusually comprehensive at that date. The beautiful drawings that were prepared under his supervision are still in the possession of the Asiatic Society of Bengal. He was followed by a number of other naturalists, among whom Blyth, the curator of this Society's museum, and Day, the author of the volumes on fish in the official "Fauna of British India" and of several other important ichthyological works, were conspicuous figures.

In recent years less attention has perhaps been devoted to fish than to certain groups of invertebrates. Large collections of the freshwater species have, however, been made, especially by Mr. M. Mackenzie in Bihar; and Mr. B. L. Chaudhuri's examination of these and other collections in the Indian Museum already indicates that many new species will have to be described. It is well known also that much of the older work stands in urgent need of revision. Perhaps the most interesting result as yet achieved has been the re-discovery of the two freshwater sting rays (*Trygon fluviatilis* and *Hypolophus sephen*) [2] briefly noticed by Hamilton at the beginning of last century.

At present it is practically impossible to estimate what has been accomplished in the study of freshwater mollusca of the Indian Empire. In Hanley and Theobald's "Conchologia Indica" (1876) about 200 species are figured, but their list is now far from complete and most of the necessary information is scattered through papers published in different scientific periodicals and often at variance with one another. It is announced that a volume on the freshwater mussels (Unionidae) will shortly be published in the "Fauna of British India" series by Mr. H. B. Preston, who has already catalogued the Asiatic specimens of this family in the Indian Museum.

It is nearly forty years since the late Mr. J. Wood-Mason commenced in the Indian Museum, of which he was then Deputy Superintendent, the study of the freshwater crustacea of India and Burma. Although his published work [3] in this direction was not very extensive, the collections that he amassed have already proved of the greatest possible value in connection with the monograph of the Indian freshwater crabs (Potamonidae) published by Colonel Alcock [4] in 1910 as part of the

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1 Account of the Fishes found in the River Ganges: Edinburgh (1822).

2 Chaudhuri, J.A.S.B. (N.S.), VII, p. 625 (1912). Both of these rays are found also in the Bay of Bengal: see Annandale, Mem. Ind. Mus. III, p. 2 (1910).

3 J.A.S.B., XL, pt. II, pp. 89, 201 and 449 (1871); XLII, pt. II, p. 258 (1873), and P.A.S.B., 1875, p. 230.

4 Catalogue of Indian Decapod Crustacea in the Indian Museum, pt. I, Fasc. ii, Calcutta (1910).

Catalogue of Decapod Crustacea in the Indian Museum. The prawns in his collection should prove of almost equal value in the survey of the Palaemonidae and Atyidae now being carried out by Mr. Stanley Kemp who two years ago succeeded to Mr. Wood-Mason's original post in its present form. Perhaps the most interesting discovery recently made with reference to the freshwater prawns is the discovery that a primitive Atyid (*Xiphocaridina curvirostris*) [1] hitherto only known from New Zealand and certain other islands in the same region, occurs in Eastern Assam, specimens having been collected many years ago by the veteran naturalist Colonel H. H. Godwin Austen and now identified, after careful comparison with specimens from New Zealand, by Mr. Kemp. Another interesting recent discovery is that of *Apus cancriformis* [2] in the United Provinces and Kashmir. This little crustacean, which is known to appear, disappear and reappear in a most erratic manner in European countries, had not hitherto been recorded from India, although a closely allied form was described from the base of the Himalayas about forty years ago.[3] Dr. J. R. Henderson, now Superintendent of the Madras Museum, and Mr. G. Matthai, lately Assistant Professor in the Christian College, Madras, have within the last few years reviewed the prawns of the genus *Palaemon* that occur in the Madras Presidency,[4] while Professor E. von Daday [5] of Budapest has described several interesting representatives of the lower crustacea from different parts of India. Another interesting discovery recently made is that of a freshwater representative of the parasitic group Rhizocephala, which are allied to the barnacles and like them hitherto regarded as exclusively marine. This animal (*Sesarmaxenos*) was found attached to a freshwater or possibly anadromous crab on a hill in the Andamans.[6]

Of the Indian freshwater "worms," using the term in its widest sense, we know as yet very little, but Major J. Stephenson's[7] investigations into the anatomy of the aquatic

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[1] Kemp, Rec. Ind. Mus., VII, p. 113 (1912). The occurrence of this prawn in Assam is rendered still more remarkable by the fact that another species of the same genus occupies intervening territory (Australia, Java, Korea, etc.) in which *X. curvirostris* is not known to occur

[2] Walton and Kemp, Rec. Ind. Mus., VI, p. 351 (1911).

[3] Packard, Ann. Mag. Nat. Hist. (4) VIII, p 334 (1871), and Monograph of the Phyllopod Crustacea of North America, p. 327, pl. XVI, figs. 5, 5a.

[4] Rec. Ind. Mus., V, p. 277 (1910).

[5] Ann. Soc Nat. Zool. (Paris) (9) XI, p. 224, etc. (1910), and Allat tani Közlemények X, p. 63 (1911); see also Kemp, Rec. Ind. Mus. VI, p. 219 (1911).

[6] Annandale, Rec. Ind. Mus., VI, p 1.

[7] Mem. Ind. Mus., I, p. 255 (1909); Rec. Ind. Mus., I, pp. 133 and 233 (1907); II, p. 39 (1908); III, p. 105 (1909); V, pp. 59, 233 and 241 (1910) VI, p. 203 (1911).

Oligochaeta are rapidly rendering this statement obsolete so far as that group is concerned. It may be mentioned here that representatives of several families of the essentially marine group Polychaeta make their way up the estuaries of the Gangetic delta into water that is practically fresh and hide themselves among freshwater sponges.

The Indian leeches are as yet little known, but a large collection has been made and is now being studied by Mr. W. A. Harding, who is preparing a volume on the group in the "Fauna."

The parasitic flat-worms and round-worms that infest the fish and other animals of our Indian rivers, lakes and ponds are still practically unknown. Mr. T. Southwell, however, permits me to state that he has recently found in Indian bony fish (*Ophiocephalus*) adult tape-worms of the genus *Tetrabothrium*. The discovery is an important one, as, with the exception of a few species from trout and salmon in northern latitudes, no adult tape-worm has hitherto been found in any bony fish.

How rich the parasitic fauna of Indian rivers must be is shown by the fact that in a single Gharial (*Gavialis gangeticus*) which died in the Calcutta Zoological Gardens a few years ago specimens of two undescribed genera of Nematodes and of a new species of *Porocephalus* (Linguatulida) were found.[1] Dr. A. E. Shipley[2] has recently described a second new species of the latter genus from the liver of a Burmese tortoise and has recorded the occurrence of *Linguatula subtriquetra*, a species of the same group hitherto only known from America, in a crocodile from the Ganges.

A small but important group of flat worms named Temnocephaloidea was first recorded from the Indian Empire by the late Mr. J. Wood-Mason,[3] who, however, identified the species he observed incorrectly. The worms of his group live on the external surface or in the gill-chamber of freshwater crustacea and other aquatic animals in many tropical and sub-tropical countries. They are not parasites but actively predaceous animals, using the hosts to which they adhere merely as beasts of burden and stalking-horses. Mr. F. H. Gravely has been able to prove by an actual comparison of specimens that a species not uncommon on freshwater crabs in some parts of Tenasserim is identical with one described by Prof. Max Weber[4] from the Malay Archipelago under the name *Temnocephala semperi*

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1 Von Linstow, J.A.S.B. (N.S.), II, p. 269 (1906). See also the same author's paper on a parasite of *Platanista*: J.A.S.B., 1907, p. 37.

2 Parasitology, III, pp. 275, etc (1910). The Linguatulida of course are not worms but degenerate Arachnids.

3 Ann. Mag. Nat. Hist. (4) xv, p. 336 (1875).

4 Zool. Ergebnisse in Niederland. Ost-Ind. I, p. 1 (1890).

(pl. II, fig. 1). Quite recently I was so fortunate as to discover in Orissa a second representative of the group, apparently related to the genus *Scutariella*,[1] which was first described five years ago from Montenegro. The worms of this genus, as also the Indian species, are minute and live on small freshwater prawns of the family Atyidae. They appear to be specially modified for this purpose, the sucker by means of which they cling to their host being transformed into an organ capable of clasping the very delicate structures to which they adhere.

Polyzoa (or Bryozoa as some prefer to call them) were first noticed in Indian ponds by the late Dr. H. J. Carter[2] of the Bombay Medical Service. I shall have a good deal to say in another part of the lecture about this group, of which at least fifteen species are now known to occur in fresh water in India. A large proportion of these species are either identical with or closely allied to European forms, but one of them, *Hislopia lacustris*, Carter, is interesting as being related to a genus (*Arachnoidea*)[3] only known to occur in Lake Tanganyika and at one time believed to support the now-abandoned theory that the fauna of that lake was of recent marine origin. *H. lacustris* is an exclusively freshwater species, having a wide range in eastern tropical Asia. The only genus of freshwater polyzoa as yet known only from India (*Stolella*,[4] an ally of the cosmopolitan genus *Plumatella*) has only lately been discovered. It is represented by two species, one of which occurs in the plains while the other has only been found in the Western Himalayas.

At least one representative of the Coelenterates must have been known to the older Indian naturalists, namely *Hydra*, the Freshwater Polyp, a practically cosmopolitan animal; but no published record of its occurrence in India existed until quite recently. We now know that at least two species are found, one (*H. oligactis*) in the Punjab and the Western Himalayas, the other (a tropical phase of *H. vulgaris*)[5] all over the plains of India and Burma. In some respects another coelenterate recently found in India for the first time, namely the medusa or jelly-fish *Limnocnida*,[6] is more interesting. It was discovered

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[1] Mrázek, Sitz. Böhm. Ges. Wiss., Prag., Math. Nat. cl., No. 36, p. 1 (1906). [Since the lecture was delivered I have procured a copy of Dr. Mrázek's paper and find that the Indian form represents a distinct though related genus. 9-v-12.]

[2] Ann. Mag. Nat. Hist. (3) I, p. 169 (1858), (3) III, p. 331 (1859).

[3] Annandale, Rec. Ind. Mus. VI, p. 199, diagram, p. 200 (1911).

[4] Annandale, Rec. Ind. Mus. III, p. 279 (1909), and Faun. Brit. Ind., *tom. cit.*, pp. 229—230 and 246.

[5] Described as *Hydra orientalis* in Mem. A.S.B., i, p. 339 (1906), recognized as a phase of *H. vulgaris* in Faun. Brit. Ind., *tom. cit.*, p. 149.

[6] Annandale, Nature LXXXVII, p. 144 (1911), and Proc. A.S.B. 1911, p. cxxiii.

last year in streams of the Western Ghats by Mr. S. P. Agharkar, Professor of Biology in the Elphinstone College, Bombay. This little medusa was at one time (like the polyzoon *Arachnoidea*) thought to be confined to Lake Tanganyika in Central Africa, its existence in which was also adduced as a proof that the fauna of the lake had a recent marine origin. We do not know as yet whether the Indian *Limnocnida* is precisely identical with the African one, but a member of the Museum staff will start in a few weeks to investigate this point and if possible discover the life-cycle of the medusa. [Mr. F. N. Gravely has recently returned from the W. Ghats with large numbers of specimens. The Indian form represents a distinct species and will be described in the next part of Records of the Indian Museum (pt. iii, vol. vii) as *Limnocnida indica*. 21-v-12.]

I have already referred to the late Dr. H. J. Carter of Bombay, a naturalist who has never received his true meed of popular fame because the animals which he studied did not as a rule appeal to the amateur naturalist. It cannot be denied, however, that his name must ever hold a prominent place in the roll of scientific workers in India. I refer to him here as a pioneer in the study of the Spongillidae[1] or freshwater sponges, to which I have myself devoted a great deal of attention.[2] We now know that at least twenty-five species and several varieties of this family, belonging to seven genera, occur in India and Burma. This is more than twice as many as have been found in the whole of Europe. Indeed, in the tank in the compound of the Indian Museum we have more species and varieties than are known to exist in that continent.

Of the Protozoa of India waters we know as yet practically nothing. A few cosmopolitan species have been recorded and one or two forms not known from other countries described, but no work of a comprehensive nature has yet been undertaken.

In this rapid summary I have dealt only with the animals that are aquatic in the strictest sense. All reference to reptiles, insects, etc. that live a part of their life in the water but desert it periodically or occasionally has therefore been omitted. I have not mentioned, either, those animals which have been bred in Europe from damp moss sent home from India,[3] and have omitted all account of certain of the smaller groups about which we can hardly be said to have any real knowledge so far as India is concerned.

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[1] Carter, Ann. Mag. Nat. Hist., 1848—1887.

[2] Annandale, Faun. Brit. Ind., *tom. cit*; see also Rec. Ind. Mus., II, p. 25 (1908), III, p. 101 (1909), v, p. 31 (1910), vi, p. 225 (1911), and also Annandale and Kemp on the fauna of the Kumaon lakes, Rec. Ind. Mus., VII, p. 129, etc. (1912).

[3] See Murray, Quart. Journ. Roy. Micr. Soc., 1906, p. 637, and 1907, p. 269, and Pénard, *ibid.*, p. 274.

II.

We now come to the second part of the lecture. Perhaps the simplest form that relations between different animals can take is the connection between hunters and prey. This connection is also by far the commonest that is found throughout the animal kingdom. In tropical fresh waters the struggle that goes on between the two great classes is a very keen one, for we find that whereas the number of individuals that live in a given area of water is probably less in warm countries than in temperate ones, the number of species among which the individuals are distributed is very much greater. This means to say, to a very large extent, that the methods by which prey is captured are much more highly specialized, and we must remember that an animal which is the natural prey of another is in very many cases itself the hunter of a third, so that the relations between the different species are, even in the matter of hunting, much more complex than they appear at first sight to be. This fact has a very practical application in tropical countries, for it indicates that if we wish to destroy the aquatic larvae of insects such as mosquitoes which work havoc among mankind in their aerial stage as transmitters of disease, we must study not only all the stages of these insects but also all those of their enemies, and all those of the animals which prey on their enemies, and all those of the enemies of their enemies' prey, and so on almost *ad infinitum*. Some day the Government of India may be forced to realize that the real problems which a civilized government must tackle are not political problems but sanitary ones. The capital of India has been changed, but the life-cycle of the mosquito, its parasites, its enemies and its food remains unaltered. Some day, perhaps, the medical profession will also realize, as some of its members already do, that sanitary problems are fundamentally biological and chemical, not medical at all, and that the training of first-class biologists and chemists is just as important, just as difficult, lengthy and expensive a process as the training of first-class physicians and surgeons.

All of this is an introduction to the statement that we biologists are well aware that we have in India a large number of indigenous fishes that prey on mosquito-larvae. We hope shortly to issue from the Indian Museum a pamphlet by Captain Seymour Sewell, I.M.S., and Mr. B. L. Chaudhuri, giving descriptions and figures of those species of Indian fish that have been proved to be particularly useful in this respect, but it must be borne in mind that the mere identification, or even the distribution, of fish of the kind is of very little use unless their biology is studied in all its aspects.

Science, ladies and gentlemen, is a mistress who must be

wooed for her own sake and not for that of her money. I turn with relief to a statement of facts which, so far as we know at present, are of no practical use, pointing out in so doing, however, that it is difficult to instance a single great practical scientific discovery that has not been based in the first instance on researches undertaken without ulterior motive.

The relations between different animals, or between animals and plants, to which I now wish to direct your attention may be classed under the comprehensive heading of symbiosis, that is to say, the living together of different species in a manner that is beneficial to one or both of the partners without being actually injurious to either. Some years ago I noticed in the Museum collection a little tortoise from Allahabad (pl. I, fig. 1) whose shell was almost completely covered with small black objects arranged in a very peculiar manner. At the time I was unable to say what these objects were, and it is only within the last few weeks that it has been possible to solve the problem. A large collection of living tortoises recently brought from Rajmahal were found in many cases to have on their shells a peculiar growth which at first sight appeared to be of vegetable origin but on examination proved to consist of colonies of a very peculiar polyzoon, closely allied in general structure to other species of the well-known genus *Plumatella* but greatly modified in external form in accordance with its peculiar habitat, the different branches of the colony, instead of directing themselves upwards to form a mossy growth or spreading out over a large area on a flat surface, being closely pressed together without overlapping and forming an absolutely flat and uniform encrusting growth. A very large number of tortoises from different parts of the Ganges have now been examined, but the polyzoon has only been found on three species —*Kachuga lineata*, *K. dhongoka*, and *Hardella thurgii*. There can be little doubt that it always adheres to the shells of these species, probably because they are almost strictly aquatic in their habits. The reproductive bodies (statoblasts) it produces at certain seasons are the small black objects that had previously been found on the tortoise originally in the Museum collection.

Together with this new polyzoon, for which I have proposed the name *Plumatella testudinicola*,[1] were colonies of *Hislopia lacustris*, to which I have already referred. This species affords an instance of what may be called false or casual symbiosis, for it was originally found on the shells of the common Indian pond snail *Vivipara bengalensis* (pl. I, fig. 2), but is now known to adhere also to shells of Unionidae (freshwater mussels) and to leaves of *Vallisneria spiralis* and other water-plants. It is doubtless useful for a polyzoon

[1] Rec. Ind. Mus., VII, p. 147 (1912).

to be fixed to an animal which carries it from place to place as the snail or the tortoise does, but whereas the *Plumatella* is apparently adapted for this position and no other, the *Hislopia* is able to flourish without any such adventitious aid if necessary.

Polyzoa feed on minute plants and animals wafted into their mouths by means of currents set up in the water by movements of tiny cilia or living hairs on their tentacles, but the worms of the group Temnocephaloidea, to which I have referred above, are more actively predaceous, although they are apparently just as dependent on their beasts of burden as *Plumatella testudinicola* is on the tortoises. Different species of *Temnocephala* live in different countries on the gills of cray-fish, on the external surface of tortoises, in the respiratory chambers of large pond-snails and on the lower surface of freshwater crabs. It is in the last position that the Indian species (*T. semperi*) is found. Doubtless the crabs carry it into positions in which the insect larvae on which it chiefly feeds are abundant. It is very active in its movements and catches its prey by means of the finger like tentacles at the anterior end of its body. The little species found on Atyidae in Orissa, however, obtains its food in a totally different manner. Adhering firmly to the gill-filaments of its host by means of a modified posterior sucker, it can suddenly shoot out with its mouth, which is situated at the anterior end of the body, a highly muscular proboscis by means of which minute organisms are seized.

Another form of relationship that is in a sense a kind of symbiosis is that which often exists between the common freshwater sponge *Spongilla carteri* in India (or *S. lacustris* in Europe) and the almost equally common polyzoon *Plumatella fruticosa*. Ordinarily the sponge and the polyzoon live quite independently of one another, although they are often found in the same environment, but sometimes, apparently quite by accident, a larval sponge settles down by the side of or on the top of the colony of *P. fruticosa*. The latter, instead of being suffocated by the growth of the sponge as most of its congeners would probably be, modifies its growth in a manner that seems to be useful to its incubus as well as salutary for itself, for it gives the sponge an artificial support of which it is often in apparent need, while preserving its own life. When leading an independent existence, colonies of *P. fruticosa* form somewhat lax, dependent or partially upright branches; but when the colony has been forced into partnership with a sponge, the branches are closely pressed together and greatly elongated, producing no lateral twigs, at any rate until the external surface of the sponge is finally reached.

These instances will serve to illustrate the kind of relations that are often established between different species of fresh-

water animals. Others of a similar nature might be cited from among the discoveries that have recently been made in India.

Yet another form of symbiosis is that which takes place between an animal and a plant. One of the best known instances is afforded by the green cells that are found in the substance of many freshwater sponges. These cells have the structure of simple Algae and are believed to benefit the sponge in which they live by producing for it nutritive substances and possibly also oxygen. They have been cultivated artificially as independent organisms but in a state of nature are only known in association with sponges or other simple animals. It is very probable that their life-cycle is still imperfectly known and that a free-living stage will ultimately be discovered. A remarkable instance of what may be a similar case of symbiosis has recently been found to occur in connection with the largest of Indian polyzoa, *Pectinatella burmanica*. The colonies of this genus are remarkable for being gregarious, and when a number have settled themselves close together it is found that they are invariably embedded in a common gelatinous substance which it was believed that they themselves secreted. Prof. W. West, however, reported last year that he had found in this substance among Indian specimens sent him for examination cells representing an Alga of the genus *Dactylococcopsis*,[1] and as similar Algae are known to secrete a gelatinous covering for themselves, it is possible that the common investment of the polyzoon is produced by the efforts of a symbiotic Alga rather than by its own.

Another genus of polyzoa closely allied to *Pectinatella* is *Lophopodella*, the type species of which (*L. carteri*) occurs in India and also in East Africa and Japan. The colonies of this species are as a rule also gregarious, but they are never embedded in a common investment. On one occasion at Igatpuri in the Bombay Presidency I found luxuriant and numerous colonies entirely surrounded by an undoubted gelatinous Alga, which Prof. West has since described as *Tolypothrix lophopodellophila*.[1] This Alga has as yet only been seen in association with *Lophopodella*, but it may occur quite commonly without the polyzoon, which has been found in just as flourishing a condition without it.

III.

"Every autumn, in a English pond or lake, a crisis takes place in the affairs of the less highly organized inhabitants, and preparations are made to withstand the unfavourable conditions due directly or indirectly to the low winter temperature

[1] J.A.S.B. (N.S.), VII, p. 83 (1911).

of the water: the individual must perish but the race may be preserved. At this season *Hydra*, which has been reproducing its kind by means of buds throughout the summer, develops eggs with a hard shell that will lie dormant in the mud until next spring; the phylactolaematous polyzoa produce statoblasts, the ctenostamatous polyzoa resting buds ("hibernacula") and the sponges gemmules. Statoblasts, hibernacula, and gemmules are alike produced asexually, but they resemble the eggs of *Hydra* in being provided with a hard, resistant shell, and in having the capacity to lie dormant until favourable conditions return."

The preceding passage is quoted from the introduction to my volume in the "Fauna of British India" on the Sponges, Polyzoa and Hydrozoa. I should perhaps explain that the bodies alluded to as gemmules, statoblasts and resting buds are all structures produced by the aggregation of cells richly laden with food material and the secretion round them of horny coverings often of a highly complex nature. Hibernacula are apparently fixed in all cases to some solid object, and this is the case also with some or all of the gemmules or statoblasts produced by some species of sponges and polyzoa respectively. Others, however, are provided with special apparatus to render them light and are carried on the surface of the water or perhaps even by wind for long distances, thus serving not only to preserve the species during times of misfortune, but also to distribute it to localities favourable for its growth. As a rule the organism which produces such bodies dies and disintegrates more or less completely after their production. It was long thought that in tropical countries the same phenomena occurred, in the matter of seasonal changes in the life-cycle, as in temperate climates, but that the peculiar bodies were produced at the beginning of the hot weather instead of the beginning of winter, and that this was due directly to the desiccation of ponds and lakes. We now know that it is not always so. A large proportion of the lower invertebrates of fresh water undergo in Lower Bengal the same change that occurs in the same species or in allied forms in Europe, and the crisis *does* take place at the beginning of the hot weather. It is not due, however, to desiccation but apparently brought about directly by the physiological action of a high temperature upon the organism. *Hydra vulgaris* produces its eggs in England about October or November. In Calcutta it produces them in March, and the same is stated to be the case in the warmer parts of the United States of North America. *Plumatella emarginata* and *P. fruticosa* produce statoblasts in autumn in England and in spring in this country, and it is a curious fact that whereas statoblasts grow more readily after being subjected to the cold of winter in northern latitudes, in Bengal they grow more readily after

being subjected to the heat of summer. It is therefore probable that there is a mean temperature which, in the case of many aquatic organisms, is the most favourable for active normal growth; but that if the temperature of the water either rises above or sinks below this point, abnormal physiological changes take place and are of a similar nature in either case.

There are, however, a considerable number of simply organized aquatic animals which in this country undergo the annual crisis in their life-cycle not at the beginning of the hot weather, but at the beginning or during the course of the dry, that is to say, the cold weather. Without exception these animals either live in very shallow water or are fixed to solid objects near the surface. They are obliged to protect themselves from desiccation, but it is possible that the actual cause of the change in their case also is a rise in the temperature of the water, for in India even the winter sun is sufficiently powerful to heat up small masses of water such as are left in the beds of drying tanks. If this be so, some species must be more susceptible than others, for occasionally we find different sponges growing side by side but in an entirely different physiological state. The most striking instance I know is that of the sponges *Spongilla bombayensis* and *Corvospongilla lapidosa* in Bombay. These two sponges resemble one another considerably in their method of growth and are found together on the lower surface of stones. In the month of November, however, *C. lapidosa* is in full vegetative vigor, while *S. bombayensis*, in absolutely identical conditions, is already reduced to a mass of gemmules, having flourished during the "rains." It is thus clear that the effect of environment is not always identical in different species.

There is at least one Indian polyzoon (*Hislopia lacustris*) that never produces bodies of the nature of statoblasts or resting buds but continues an active life throughout the year, and there is at least one Indian freshwater sponge (*Spongilla proliferens*) that produces gemmules and dies down at short intervals, never enjoying long life or reaching a large size. The change appears to occur in its case without reference to temperature or to any change in environment and to be due merely to a kind of senescence or old age. *Spongilla proliferens*, however, is peculiar among freshwater sponges in that it continuously produces external buds which break loose from the parent stock and start life as independent sponges.[1]

IV.

The last topic on which I propose to touch to-night is that of the direct effect of changes in environment on simply

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[1] Annandale, Rec. Ind. Mus., I, p. 267 (1907).

organized animals such as sponges in which there are no definite organs and the individual cells are capable of great modification both in structure and in function. With this topic I must deal very briefly. Indeed, all that I need say is that whereas a very slight change in environment may often produce a very great change of external form (and occasionally a less marked change of internal structure) in the same species,[1] identity of environment does not always produce even similarity of external form in different species. These facts are well illustrated by the pictures I will now show you. The first of these pictures (pl. II, fig. 2) is a photograph of three specimens of the Himalayan race of the widely distributed freshwater sponge *Ephydatia fluviatilis*. These specimens were all taken in shallow water in the lakes of Kumaon by Mr. Kemp in May, 1911. The lower figure (A) represents a piece of stone to which three sponges are attached. They have the form of flat circular films. The specimen marked B was attached to a slender twig and has assumed the form of a cockscomb, while the one marked C was growing on a forked twig with not very divergent branches and is of somewhat irregular form. These differences in external shape are due solely to the nature of the object to which the larval sponge originally affixed itself.

The next three pictures (pl. III) illustrate the second point and are from drawings of three different species of the genus *Spongilla*, all growing on the roots of the same plant (*Pistia stratiotes*). You will readily see that they differ considerably from one another in external shape and in the mode of growth, although they were all taken in the Museum tank in Calcutta about the same time of the year.

In concluding this lecture I wish to thank those who have assisted the Indian Museum in the work we have undertaken, especially in that of surveying the freshwater fauna of India. A great deal of this work can only be carried out in a satisfactory manner by trained biologists, and the little we have as yet accomplished has been accomplished because the Trustees of the Indian Museum have recognized that a part of its zoological work must be performed in the field, and have granted the scientific staff every facility for travelling in different parts of India. The fact that we have not ceased to be an Imperial institution renders this possible, and although no Zoological Survey of India is officially recognized in the sense that the Botanical, Geological and Archæological Surveys are recognized, I think that we may claim to perform the work of such a survey and are not

[1] *Cf.* Miss Jane Stephens' remarks on Irish species: Proc. Roy. Irish Acad. XXXI, pt. 60, p. 14 (1912).

altogether unsuccessful in so doing. I must beg all those who are interested in natural history in India, and especially the zoological members of this Society, to give us their support and to take a practical interest in our work; for scientific work, like other branches of human activity, if it fails to attract the sympathy of educated men, is in danger of becoming either a valley of dry bones or a slough of despond. Even those who are completely ignorant of the technicalities of any science can help us greatly by sending us specimens of the animals that occur in ponds, rivers or lakes in different parts of the Indian Empire, and nobody need hesitate to send us such specimens because they are common. Most animals that are rare in museums are actually common somewhere, in a state of nature: they only appear to be rare because no one has taken the trouble to collect them in the particular locality in which they abound. In India and Burma, at any rate, it is probable that many of the most interesting aquatic species are still either altogether unknown or have as yet been imperfectly studied.

EXPLANATION OF PLATES.

Plate I.

FIG. 1. Tortoise (young of *Kachuga dhongoka*) with statoblasts of *Plumatella testudinicola* on its shell (*reduced*).

FIG. 2. Shells of the mollusc *Vivipara bengalensis* covered with colonies of *Hislopia lacustris* (dried specimens: *nat. size*).

Plate II.

FIG. 1. Specimens of the predaceous flat worm *Temnocepala semperi* taken from freshwater crabs (*Potamon manii*) in Tenasserim (*magnified*), showing (A) dorsal surface and (B, C) ventral surface.

FIG. 2. Specimens of the Himalayan race of the sponge *Ephydatia fluviatilis* from the lakes of Kumaon (slightly reduced). A—three sponges growing on a stone; B—a sponge growing on a slender twig, and C—one growing on a forked twig.

Plate III.

Sponges growing on the roots of the floating water-plant *Pistia stratiotes* from the Museum tank, Calcutta.

FIG. 1. A living specimen of *Spongilla proliferens*, showing buds and expanded oscular collars (*nat. size*).

FIG. 2. Preserved specimen of *Spongilla crateriformis* (*nat. size*).

FIG. 3. Preserved specimen of *Spongilla crassissima* (*nat. size*).

3. Cavalry in the Ṛgvedic Age.

By Surendra Nath Mazumdar, Sāstri, M.A.

In his History of the Sanskrit Literature Prof. Macdonell writes that though the horse was yoked in chariots 'he was not yet (i.e. in the Ṛgvedic age) used for riding' (p. 150), and that 'cavalry was nowhere mentioned and probably came into use at a considerably later period' (p. 165).

Though this statement seems to be supported by the facts that in the hymn (Ṛgveda VI. 75) in praise of the implements of war horses are described as "yoked to the chariots" and that in Greece there was no use of cavalry in the Homeric age,[1] I venture to quote the following passages which seem to me to indicate that riding was not unknown in the Ṛgvedic age:

उप॑ वा॒मवः॑ शर॒णं ग॑मेयं शू॒रो नाज्म॑ पतयद्भि॒रेवैः॑ ।

R.V. I, 158, 3.

May I approach your shelter and protection as a hero *on* winged *horses* his army?

आ नः॒ स्तोम॒मुप॒ द्रव॑त्तू॒यं ख्ये॑नेभि॒ राशु॑भिः । यात॒मश्वे॑भि॒रश्वि॑ना ॥

R.V. VIII, 5, 7.

O Asvins, speedily come to our prayer *on swift flying horses.*

स नः॑ कदा॒चिदर्व॑ता॒ गम॒दा वाज॑सातये॒ गम॒दा मे॒धसा॑तये ।

नभ॑न्तामन्य॒केस॑मे ॥

R.V. VIII, 40, 2.

Once may he come unto us *on his steed.* Come unto us to win us strength and to complete the sacrifice; may all the others die away.

यो अश्वे॑भि॒र्वह॑ते॒ वस्त॒ उषा॒स्तिः स॒प्त सं॒मृतो॑नां ।

गृ॒भिः सोमे॑भिः सोम॒सुद्भिः॑ सोमपा दा॒नाय॑ शुक्रपूतपाः ॥

R.V. VIII, 46, 26.

Invested with the rays of morn, he is *carried (to us) by horses* thrice seven times seventy. Through these our soma draughts

1 "The Chiefs fought in war-chariots..drawn by two or three horses ..... There is no mention of cavalry." Collins' Illiad, pp. 23—24.

and those who press, to give, drinker of pure bright soma juice.

उच्चा॒ ते॑ वयो॒धि यः स्व॒राळुत वा॑यो घृत॒स्नाः ।
अ॒स्वे॑षितं॒ र॒जे॑षितं॒ शुने॑षितं॒ प्राज्म॒ तदि॒दं नु तत् ॥
R.V. VIII, 46, 28.

Sole lord in a body worthy of praise, O Vāyu, dropping fatness down, *carried along by horses*, by camels and by hounds, spreads forth thy train : even thus it is.

व॒यम॑ग्ने अ॒र्व॑ता वा सु॒वीर्यं॑ ब्रह्म॒णा वा॑चितयेमा॒ जना॑ अ॒ति ।
अ॒स्माकं॑ द्यु॒म्नमधि॑ पंच॒ कृ॒ष्टिष्वा स्व॑ १॑र्णे शुश्रुवीत दु॒ष्टर॑म् ॥
R.V. II, 2, 10.

Agni, may we *show forth our valour with the horse*(*s*) or with the power of prayer beyond all other men ; and over the five races let our glory shine high like the realm of light and unsurpassable.

इन्द्र॑ सान॒सिं र॒यिं सजि॑त्वा॒नं स॒दास॑हं॑ । वर्षि॑ष्ठमू॒तये॑ भर ॥
नि येन॑ मु॒ष्टिह॒त्यया॒ नि वृ॒त्रा रु॒णधा॑महै । त्वोता॑सो॒ न्यर्व॑ता ॥
R.V. I, 8, 1-2.

Indra, bring, for (our) protection, the victor's ever-conquering wealth that gives delight [and] is most excellent ;

By means of which we may, being protected by you, *repel our enemies* with the blows of our fist and *with horse*.

These passages indicate, in my humble opinion, that riding was known in the Rgvedic age. The last two passages show that cavalry were used in warfare.

4. A Note on Kāśikā.

By Surendra Nath Mazumdar, Sāstri, M.A.

Professor Macdonell (in p. 432 of his History of Sanskrit Literature) describes the kāśikā-vṛtti as the "Benares commentary." Thus he derives "kāśikā" from "Kāśi" or Benares. But as there is no proof that this commentary was written in Benares, and as I do not know of any instance of naming a Sanskrit commentary after a place-name, this interpretation is doubtful.

Now the root "*kāś*" means "to shine," "to be visible." Words like Pra-kāśa, Pra-kāśikā, kāśikā, etc., are derived from it. And *Pra-kāśikā* (meaning "greatly illuminating," "making well visible") is a very common name applied to various commentaries (e.g. Renganātha's commentary on Vikramorvasi). The word *kāśikā* is *Prakāśikā* without the intensive particle "*Pra*." Hence kāśika-vṛtti means a commentary illuminating (explaining) [the sūtras of Pāṇini] and it has nothing to do with Benares.

5. The Author of the Bhattikavya.

By Surendra Nath Mazumdar, Sāstri, M.A.

The question of the authorship of the Bhaṭṭikāvya—*the kāvya of Bhaṭṭi*—and its date is still an open one. The only information supplied by the author is contained in a verse in the last canto in which he has stated that it was composed at *Valabhi* in the reign of *Śri-Dharasena*. But as there were four Dharasenas (end of the fifth century to the middle of the seventh), even this detail is of no use in fixing the date absolutely.

Again there are doubts as to the name of the author himself. Though the very name of the kāvya shows that the name of the author was *Bhaṭṭi*, some commentators (e.g. Bharatamallika, Vidyāvinoda, etc.) name the author as *Bhartṛhari*. And supposing that "Bhaṭṭi" (the work) could in Chinese have been represented by "*Pida*" or "*Peina*" or "*Vina*," which I-tsing stated to be a work of Bhartṛhari containing the 3000 verses, the late Prof. Max Müller thought that Bhaṭṭikāvya is the work of the grammarian-poet Bhartṛhari who died in 651 A.D. after having fluctuated seven times between the Buddhist monastery and the world (Tākākusu's I-tsing, p. 180).

Professor Macdonell also has given this account in p. 327 of his History of Sanskrit Literature

But Dr. Kielhorn has shown (I.A. 1883, pp. 226—27) that "Piena" or "Pida" can not represent Bhaṭṭi. He takes it to be the "Prakīrṇa" which, though now taken as the third chapter of the Vākyapadīya, was taken, as late as the twelfth century, as a work distinct from the Vākyapadiya.

Now I-tsing, who visited India only forty years after Bhartṛhari's death and has given a very detailed account of his works (Tākākusu's I-tsing, pp. 178—80), has mentioned only three of his works—(1) the cūrni, the commentary on the Mahābhāṣya; (2) the Bhartṛhari-Śāstra (Vākyapadīya); and (3) the Peina or Prakīrṇa. There is, therefore, no good reason for attributing the Bhaṭṭikāvya to Bhartṛhari, the grammarian.

Mr. B. C. Mazumdar popularized the theory (J.R.A.S. 1904, pp. 395—97) that Bhaṭṭikāvya is the work of the poet Vatsabhaṭṭi, the author of the Mandasor Sun-temple Inscription (Fleet's Gupta Inscriptions No. 18), dated 473 A.D. A few stanzas of this inscription resemble the description of autumn in canto II of the Bhaṭṭikāvya. He then may be, continued Mr. Mazumdar, a poet of the court of Dharasena I, the second king of Valabhi. This early date (fifth century as opposed to

the seventh) is supported, according to him, by the facts that the Prakṛt contained in a canto of the Bhaṭṭikāvya is undoubtedly older than the Prakrits of the seventh century dramas and that Bhaṭṭkāvya does not refer to the story of the Uttara-kāṇḍa of the Rāmāyaṇa.

But as the Prakrit portion of this kāvya is not the ordinary literary Prakrit but the artificially elaborated "*Tatsama*" Prākṛit illustrating what is technically called the *Bhāṣāsama*, it proves nothing. And it would be very difficult to assert that the Uttarakāṇḍa was unknown at so late a period as the fifth century A.D. Nor can the similarity of a few verses of the Mandasar inscription with the second canto of the Bhaṭṭi-kāvya prove the identity of their authors. Nor is there any evidence to connect this Vatsabhaṭṭi of Mandasor with Valabhi.

And it is needless to make such surmises when the existence of a real Bhaṭṭi of Valabhi can be proved by epigraphic evidence.

An inscription dated Valabhi Samvat 334 (653 A.D.), which has been numbered 485 in Dr. Kielhorn's "Northern List," records the donation of a village by Dhruvasena III (son and successor of Dharasena IV) to the brāhmana Bhaṭṭi-bhat(ṭ)a, the son of Bappa, who comes from Mahichhaka, dwells at Mahichhaka and belongs to the *chāturvedins* (*brahmaṇas versed in the four Vedas*) [1] of this (place), to the gotra of the Kauśikas and to the school of the Vājasaneyas."

Dr. Hultzsch (in E.I. vol. I, p. 92., F.N.) objected to the identification of this Bhaṭṭi with the author of the Bhaṭṭi-kavya on the ground that the commentator Jayamangala gives Śrīsvāmin as the name of the father of our author, while the Bhaṭṭi of the inscription is stated to be the son of Bappa. But no reliance can be made on the statements of the commentators. For the author himself has not stated the name of his father, and different commentators give different names. Jayamangala names him Śrīsvāmin, while Vidyāvinoda [2] names him Śrīdhara. Hence the best course would be to reject the conflicting statements of the commentators. Even if we place reliance on these statements, the designation "Bappa's son" can not invalidate this identification. Dr. Fleet (in I.A. 1886, pp. 273–5) has shown that the ward *Bappa* (or its derivatives) has been used in many Valabhi inscriptions as equivalent to "father." Thus it is very probable that *Bappa* is here used not as a proper noun and means "father." Probably the officer who drafted the grant in question did not know the

[1] The word in the inscription is चतुर्वेद्य सामान्य. This means four branches of knowledge and not in four Vedas. Hultzsch is wrong in his interpretation and S.N.M. follows him without enquiry. How could a brahmana versed in four Vedas study only the Vajasaneya Shākhā ?—H. Shastri.

[2] Colebrooke's Essays, vol. ii, pp. 115–16.

name of the donee's father and wrote *Bappa-putrāya*—"to the son of (his) father."

I take the author of the Bhaṭṭi-kāvya, which was written at Valabhi in the reign of Śrī-Dharasena, to be identical with the Bhaṭṭi who was versed in the four Vedas and to whom Dhruvasena III, the son of Dharasena IV, granted a village in A.D. 653.

6. Critical Examination of the Transcript of Aitpoor or Atapura Inscription.

By Pandit Mohanlal Vishnulal Pandia.

We come to know from the writings of Colonel James Tod, that he, for the first time, obtained two inscriptions of Śaktikumāra, an earlier king of Mēwar or Udaipur State, in Rājputana, from the ruins of the so-called Aitpoor or Ātapura, which is at present popularly called Āḍ or Āhaḍ. He has not given the transcripts of these inscriptions, but the translation only of one of them, dated Samvatsara 1034 = A.D. 977, at the end of his well-known work "Annals and Antiquities of Rajasthan.[1]" A copy of this translation is appended to this paper by us, as marked A. As regards this epigraph, the Colonel himself has said thus :—.

"From the deserted and now forgotten 'city of the sun,' Aitpoor, the abode of wild beasts and savage Bhils, another memorial of the princes of Mewar was obtained. It relates to the prince Shaktikumār. Its date is S. 1024 (A.D. 968),[2] and it contains the names of fourteen of his ancestors in regular succession. Amongst these is Bappa or Syeel. When compared with the chronicles and family archives, it was highly gratifying to find, that with the exception of one superfluous name and the transposition of others, they were in perfect accordance."

(T. R., vol. I, p. 192.)

Up to the year 1902 A.D. Colonel Tod's translation of the inscription was unquestionably believed by each and every writer of the history of Mewar. But it is questioned afterwards, by the followers of the anonymous and new Ānandapura theory of the history of Mewar, which has lately been invented by somebody in opposition to the ancient Vallabhi theory. The main features of these two theories we have mentioned in our critical notes on a brief history of Mewar by the late Kaviraj Shyamaladan, the Court-bard of Udaipur, which is at present in press. But it would not be out of place if we say something here about the aims of these two theories, for the information of our readers, as briefly as we can. The ancient Vallabhi theory vindicates the generally accepted genuine or pure Sūrya-vansi origin of the Guhilota

[1] Higginbotham and Co.'s Edition, p. 708

[2] It is a misprint, as Tod has given the correct date s. 1034 in his translation.

kings of Mewar; and the new Ānandapura theory advocates in opposition to it, that the chiefs of Mewar were originally Nāgara Brahmanas of Ānandapura or Vāḍnagar in Gujarat and afterwards they have become Ksatriyas.

Colonel Tod's translation of the inscription is questioned now on the basis of a transcript of it, which is said to have lately been discovered from the Jain Bhāṇḍāra of Gyānjī Jati, the Pandit employed by Tod, at Maṇḍal in Mewar. It has lately seen the light of the day, being published by Mr. Devadatta Ramakrishna Bhandarkar, M.A., of Poona.[1]

A copy of it is appended to this paper, marked B. How he got it, he himself says :—

"And it was hoped that every thing would be clear only if Gyan Chand's transcript of the Aitpoor inscription were traced in his Bhāṇḍāra. But here again nobody knew where his Bhāṇḍāra was. This mystery has now been unravelled by Pandit Gaurishankar Ojha, of the Rajputana Museum, Ajmere. As was surmised, Gyan Chand's transliteration could also be traced in that Bhāṇḍāra, and I am indebted to the Pandit for having supplied me with a copy of it, without which it would have been somewhat difficult to write this note.[2]"

"But the matter is placed beyond all doubt by a copy sent to me by Pandit Gaurishaṇkar Ojha, of the transcript prepared by Jñānachandra Yati for Tod himself and lying in the Jaina Bhāṇḍāra of Maṇḍal in the Udaipur State. This inscription refers itself to the reign for Śaktikumār, is dated V.E. 1034 (A.D. 977), and is thus nearly three hundred years anterior to the Chitorgadh epigraph.[3]"

And in a footnote on this statement he further says :—

"For a long time nobody knew anything about the gachchha and whereabouts of the Jat, and it is, indeed, to Pandit Gaurishankar's zeal, as unflagging as disinterested, that we are indebted for information on these points."

Before Mr. Bhandarkar's publication of the transcript of this inscription, the author of the new Rajputana Gazetteer has reconstructed the history of this period on the sure basis of this transcript. He says :—

"The twelve names from Khuman I. to Śaktikumār are taken from an inscription dated 977, which was found at Aitpur (or Ahaṛ) by Tod. In his translation Tod left out several names, namely, Mattata, Khuman II, Mahayak, Khuman III, and Bhartri Bhat II, but with the help of a copy of the original inscription, recently discovered at Maṇḍal in the house of a descendant of the Pandit whom Tod employed, it has been possible to supply the omissions, and it may be added that these names are all confirmed by other inscriptions."

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[1] I. A., Vol. XXXIX, Part XDV, pp 186-91.
[2] I. A., Vol. XXXIX, Part XDV, pp. 186-7.
[3] J. and P. of A.S.B., Vol. V, No. VI, p. 177.

(R. G., vol. II, A., p. 14.)

The author of the Rajputana Gazetteer, Mr. Bhandarkar and Pandit Ojhaji have taken a very favourable view of the importance of this transcript of the alleged epigraph. The first twenty names of the lists of chiefs of Mewar of these three scholars are said to be in perfect accordance with this transcript. And as regards its importance Mr. Bhandarkar says:—

"The importance, however, of this inscription chiefly consists in giving us reliable information regarding the earlier part of the dynastic list. No less than three such lists had already been supplied to us by the Ranpur, Achalgadh, and Chitorgadh inscriptions. But none of these is complete, or of earlier date, than the close of the thirteenth century. Our inscription, on the other hand, is of the tenth century, and gives a full dynastic list.[1]"

Besides, this transcript in the Ānandapura theory is considered as its most reliable fundamental proof. Because it supports satisfactorily its aim, that Guhila was a Nāgara Brahmana and he migrated from Ānandapura.

But nobody has yet made a critical examination of the alleged transcript, to ascertain how far it can be a well-authenticated proof in a much disputed historical question, or can a man safely obtain only on the proof of such an imperfect document, when the original stone is missing, a decree from a Law Court?

Now we relate the result of our critical examination for the information of our antiquarian readers:—

A. It is a matter of great importance to know, that the original stone is, at present, not available for examination. It is missing or rather lost. On the organization of department of History of the State of Mewar at Udaipur, Kaviraj Shyamaladan and I, and some other scholars also, tried all we could to search out the original epigraph, but we all unfortunately failed to obtain it.

B. Thereafter, Kaviraj, the head of the department of History, endeavoured his best to obtain a transcript of it, examining the old papers of Colonel Tod, which were left in possession of his Pandit Gyanji Jati of Mandal. After some time, he fortunately got a rough copy of the transcript from the then pupil of Gyanji Jati through the District Officer of Bhilwara. This copy of the transcript was shown to the late Maharana Sajjansinhaji, who was taking great interest in history, by Kaviraj in the presence of us, the Durbaris. From it several fair copies were made for persons who were the Kaviraj's colleagues in the beginning. One of those copies I have in my library, which I lay now before the public, append-

[1] I. A., Vol. XXXIX, Part XDV, p. 188.

ing it to this paper marked C. Thus the antiquarian public have now two different copies of the transcript of the epigraph before them.

C. On comparing these two copies of the transcript, we find that the following two pādās of verses 2 and 3 of Mr. Bhandarkar's copy are wanting in our copy, which gives four names more than the fifteen names mentioned in Tod's translation, namely Khuman, Bhartripatta, Khuman and Mahayak :—

खोम्माण-नृपैः सहभर्त्तृपट्टैः ॥ (२)

खोम्माण इत्यथ सुतोस्य महायको भूत् ॥ (३)

And the following pada or stanza is in our copy after the second half of verse 3 of Mr. Bhandarkar's copy :—

सिंहोभवत्तदनु तद्भूतोपि

It is surprising that there is so much difference in these two transcripts, which both are said to have been obtained from the pupils of the same Gyanji Jati, the Pandit employed by Tod. Further, it is more surprising that the name of Mattata, which is wanting even in the transcript of Mr. Bhandarkar, is suggested by him to be supplied in accordance with the Kadmal inscription—an inscription of later date, in his footnote 14. But, on the other hand, the above-mentioned statement of the author of the Rajputana Gazetteer shows that he has supplied Mattata's name according to the transcript obtained from Mandal, in which it is really wanting. If his statement is true, then there must be a third copy of the transcript, in which Mattata's name is plainly mentioned, otherwise, it is his mistake that he has referred the transcript in his statement without first examining it.

D. Now the question arises: Which of the two transcripts was really before Tod, when he made his translation? To solve this problem, two different speculations were made. Firstly, that the transcript lately published by Mr. Bhandarkar was before Tod, but he left out the two stanzas of verses 2 and 3, which contain four more names, as the author of the Rajputana Gazetteer has said. Secondly, that Mr. Bhandarkar's transcript was not in the hand of Tod, otherwise he might have translated the alleged stanzas also. It is highly improbable to believe, that a scholar and antiquarian like Colonel Tod intentionally or carelessly left them out in his translation. But, on the other hand, it seems credible that the transcript of the inscription, which we lay now before the public, as marked C, was really before Tod. Because his substantial translation is in perfect accordance with it. Thus it has become a very difficult question to be satisfactorily solved, which of the so-called two transcripts of Gyanji Jati is a true

one in the absence of the original inscription-stone, as whatever we will conclude would be merely conjectural.

E. Both the transcripts are not clear and incomplete, which Mr. Bhandarkar also has acknowledged in his note. He says:—

"Owing to the transcript of Gyanchand not being clear after verse 6, I am not in a position to determine with certainty what was further intended to be said."

* * * *

But what the sense of that verse is, is not clear from the transliteration as it stands."[1]

The concluding part of the inscription is wanting in both transcripts.

F. There is another question of some importance—Where is the so-called transcript of Gyanchand, which is mentioned as lying in the Jain bhandar at Mandal, in the Udaipur territory, by Mr. Bhandarkar and the author of the Rajputana Gazetteer? The result of our enquiry shows that it is not in the Jain Bhandar at Mandal, when we are writing this paper. Because Gyanchand Jati's pupil's pupil Ganeshchand has informed me through a gentleman of official position, that it has lately been taken away by Pandit Gaurishankar, on the plea that it shall be kept in the Victoria Hall Museum, at Udaipur. Further, we are informed by another respectable gentleman of Udaipur, that it is not in the Victoria Hall even. Thus, if our informants are right, it might be, at present, either with Pandit Gaurishankar or some body else interested in the Anandapura theory. Moreover, the statement of Mr. Bhandarkar, quoted above, shows that it is not in his possession, nor has he seen it, as he has said that his text of the transcript is a copy of that copy which was supplied to him by the aforesaid Pandit.

G. Whatever is said by Mr. Bhandarkar in his statements quoted above regarding nobody knowing anything for a long time about the gachchha, Bhandar, this transcript of the epigraph, and whereabouts of Gyanji Jati, is wrong. It appears that he is misinformed by somebody interested on these points. For, everything about Gyanji is well known to his co-religionists, the Jains residing in Mewar and numbering about one lakh, all the officers of the Udaipur State, and other Sirdars, Umraos, Paswans and Seths and Sahukars. His name has become a household word with that of Colonel Tod in Mewar. He is popularly called as 'Tod Sahab-kā Guru' Kaviraj, and we others have the copy of transcript of the epigraph from a long time before Pandit Ojhaji was employed under Kaviraj. We recollect that he was employed in A.D.

[1] I. A., Vol. XXXIX, Part XDV, p. 187.

1888. Hence it was no mystery to be unravelled by anybody.

H. Mr. Bhandarkar in his statement quoted above has remarked, that the lists of the chiefs of Mewar, given in the later inscriptions of Ranpur, Achalgadh and Chitorgadh, are not complete, but this transcript of the Ātapura inscription 'gives a full dynastic list,' that is, it is complete. But it is not so. Because it is plainly said in it यस्यान्वये, i.e. in his (Guhadatta's) lineage so and so princes were. Thus, it clearly shows that the writer of this inscription, like the composers of other later inscriptions, has mentioned as many names of earlier princes as he could know or ascertain when he composed the epigraph. Again, it is worthy of note, that the historic element of all inscriptions of the Native States is not of their composer's own. We are well aware, when a Pandit is called upon to compose an inscription, he is directed to consult the Charans and Bhats and some other old men of the State on the subject. Besides, in some of these inscriptions we find, that wonderful and marvellous things and praises of princes beyond belief are related like the Puranas. I refrain from quoting them here, hoping that our readers shall be able to know them on critically reading these inscriptions.

I. Mr. Bhandarkar, in his note on this transcript, has conjecturally concluded, that Āḍ is one of the present two names of the place, wherefrom the so-called inscriptions of Saktikumāra are said to have been obtained by Colonel Tod and Professor Bendall, is a corruption of Āṭā (pura) and the second name Ahaḍ of Aghata (pura), as he says :—

"Aḍ is, of course, a corruption of Āṭā (pura) mentioned in our inscription and Ahaḍ of Aghata (pura) which is also referred to in several Mewar and Marwar inscriptions."

(I. A., Vol. XXXIX, Part XDV, p. 188).

But we take an exception. Mr. Bhandarkar has not shown the rules of the Prakrita or Hindi languages, according to which these corruptions Āḍ and Āhaḍ of the Sanskrita names of the place Āṭāpura and Āghāṭapura are considered to have been made, nor is it proved by him that before the composition of these inscriptions Āḍ and Āhaḍ were popularly called Ātapura and Āghatapura by the people. But on the other hand, we see even at present, that if we give such popular names to Pandits to be mentioned in inscriptions, they Sanskritize them, that is, make them Sanskrit, meaning something as they please in their composition. For instance, the following words are made thus—

1. Chitor = Chitrakuta.
2. Mewar = Medapta.

3. Ajmere = Ajayameru or Ajamidha.
4. Man Mori = Manu-raja Maurya.
5. Kumbha = Kumbhakarna.
6. Khetasi = Kshetrasingh.
7. Bapa = Bappa, Bappaka and Vashpa.
8. Hira or Sila = Siladitya.
9. Nāga = Nagaditya.
10. Lākha = Lakshasingh or Lakshmanasingh.
11. Lakhamsi = Lakshmanasinha.

Thus it is clear beyond doubt that these popular names of the place Āḍ or Āhaḍ are not the corruptions of Āta (pura) and Āghāta (pura), but they are made Sanskrit as Ātapura and Āghātapura by the writers of the inscriptions.

J. Similarly, Mr. Bhandarkar has formed the following merely conjectural opinions regarding the meaning of the proper name "Bapa" and that of his title "Ravala." That the former is a respectful term for ascetics and he was called Bapa as he became a member of the sect :—

"Tod also says the same thing when he writes, 'Bappa is not a proper name, it signifies merely a child.' I do not, however, think that Bapa can here mean a 'child.' In my opinion it is the same thing as Bapa or Bava, a respectful term for ascetics. * * * And the name Bappa or Bapa becomes significant only if it is taken to refer to his having become a member of this sect."

(I. A., Vol. XXXIX, Part XDV, p. 190).

And the latter term Ravala means a sect of ascetics and also of their lay-followers :—

"Now Ravala is the name of a sect of ascetics and also of their lay-followers. These Ravalas still abound in Mewar and are found also in Gujarat and Maharashtra even so far south as Sanwatvadi. I shall seize an early opportunity of writing a special note on this sect, but it is sufficient to say here that Bappa was called Ravala because he joined that sect, of which Haritarasi was the head priest."

(I. A., Vol. XXXIX, Part XDV, p. 190).

But both these conjectures are wrong. Because Bapa was called Bapa from his very birthday by his mother and the family priest and so on by all and every inhabitant of the city, and not from the time of his becoming a pupil of Haritarasi or joining his sect. Besides, the term Bapa, used in the inscriptions and historical works, is before us as a proper name, that is, it is a name of an individual person or prince, and not as a common name. Taking the term Bapa as a common noun

also, if anybody wants to know how it has become a proper name. It is plain, that it is here a term of the Gujarati language. Bapa's mother Vichitra-Kunwari Bai, daughter of the Chauhan family, was a resident of Gujarat and he was born and brought up in the house of Ravala Vishveshvara Bhatta or his son Raghuraya, the family priest and a Nagar Brahman of Anandapur, in Gujarat. Accordingly, in the Gujarati language it means both a "child and father"; as અરે! બાપા શું કરે છે? O child, what are you doing, and હજી બાપા નથી આવ્યા Father has not yet come. So, it is in Gujarati a word or name of endearment generally used for a child. Hence by calling him as Bapa from his very birthday, it became his proper name, and he also retained this pet-name throughout his life and did not change it, though he became a great illustrious prince, the founder and predecessor of the Mewar family and his real janma-nam or birth-name, given by the astrologers, when his nam-karan-samskar (the religious ceremony of a newly-born child) was performed by the family priest, Raghuraya, was "Visvapati."

Likewise, the so-called (spurious) Ekalinga-mahatmya No. I, the corroborative authority of the Anandapura theory, plainly tells us in its following couplets, that the ancestors of both Bapa and his father Guhadatta or Guhila, namely Nāgā and Bhōgā, were called or entitled as Ravala, who had no connection whatever with the head priest, Haritarasi, or his sect of ascetics and flourished long before them, i.e. Bapa and Guhadatta or Guhila were in sixth or seventh generation after them. It is said in the aforesaid Mahatmya :—

TEXT.

तस्य सुतो जगतो तलमखिलं तपसा सुखास्पदं कुर्वन् ।
नागा राउल नामा बभूव पात्रं स्मृतीनां यः ॥ ४ ॥
तत्पुत्रो जगतो भोगा राउल संज्ञो धराधिपैर्वन्द्यः ।
आसाधरोस्य सुनुः श्रीदेवाङ्कस्तस्य तनुजन्मा ॥ ५ ॥

TRANSLATION.

"4. His son was Nāgā Raula by name, who by his religious austerities made the whole world happy, and was an object of admiration to the Smrities.

5. His son was of the name of Bhoga Raula, who was adorable in (this) world to the kings; his son was Asadhara; and his son was Sri-deva"

(J. and P. of A. S. B., Vol. V, No. 6, p. 171—72).

Further, in the inscription of Narlai, dated V. S. 1597, Guhidatta, the father or predecessor of Bapa, is entitled as Raula :—

अथेह श्रीमेदपाटदेशे । श्री सूर्यवंशीय महाराजाधिराज श्रीसि(शि)लादित्यवंशे श्रीगुहिदत्त राउल श्रीबप्पाक श्रीखुमाणादि महाराजान्वये ।

TRANSLATION.

"Now here in the country of Medapata, in the family of Siladitya, who was the King of Kings and belonged to the solar dynasty, in the family of the great Kings Sri Guhidatta Raula, Sri Bappaka, Sri Khumana and others."

(B. I., page 35).

And in the following couplet of the inscription of Raya-Sagar lake, the meaning of the term Ravala is given as :—One who is endowed with the fullness of kingdom, supremacy and opulence is called a Ravala :—

TEXT.

राज्यातिपूर्णत्व वरत्वलक्ष्मीमयत्व प्रब्दादिवर्णयुक्ताम् ।
तां रावलाख्यां पदवीं दधानो बाप्पाभिधानः सरराज राजा ॥ १९ ॥

TRANSLATION.

19. "Holding the title of Ravala formed of the first letters of the words राज्यातिपूर्णत्व (fullness of kingdom) वरत्व, (supremacy) and लक्ष्मीमयत्व (opulence), the King called Bashpa became eminent."

(B. I. page 31).

Besides, there is a tradition, current among the Nagar Brahmanas of our caste and Khyatis, that, as the totally dissatisfied and rebelled minister of the hereditary kingdom of Bapa was always trying his best to take his revenge by killing him and his mother, so as the dynasty of the Guhilots may be extirpated, Bapa was born and brought up secretly in the house of his family priest, Ravala Visvesvara Bhatta, or his son Raghuraya, a Nagar Brahmana of Anandapura. Consequently no name of his caste was given to him and he and his caste were carefully and completely kept secret, until he grew up and became fit to rule and the Saint Haritarasi, the grandfather of

Ravala Visvesvara Bhatta, a Nagar Brahmana, ultimately unravelled the mystery of his concealed Kshatriyaism. Bapa was called in his infancy as Bapa Ravala, that is, by his pet-name Bapa and Ravala, the title of his family priest. Ravala is one of the many Avatankas (titles) of Nagar Brahmanas, as Pandia, Jani, Mahata, Vyasa and Sukla, etc., signifying profession, etc. Accordingly, those persons were called Ravalas who were the servants of Ravala, i.e. the Royal Palace. The term Rāvalā is still in use in the Mewari language, also in this meaning, as for instance वो रावले गया है, i.e. he has gone to the Royal Palace. Ravala is also used in the Mewari language in the sense of 'lord of the palace,' i.e. a king.[1] Hence in our humble opinion, when a term is before us, clearly used as a proper name in any writing, then it is useless to attempt to give some sort of meaning to it by making such far-fetched conjectures.

K. Mr. Bhandarkar has conjectured, on the chief authority of this transcript, under examination, and the corroborative evidence of the following couplet of Naravahana's inscription, dated 1028 v. s., that the real founder and predecessor of the Mewar dynasty was Guhadatta or Guhila of this transcript of the Atāpura inscription, and not Bapa of the Ranpur, Achalgadh and Chitorgadh epigraphs, as Bapa is plainly said—the moon among the kings of the family of Guhila in the earlier aforesaid inscription of Naravahana.

Text.

आस्मिन्न भूद्गुहिल (गो) त्र नरेन्द्रचंद्रः ।

श्रीवप्पकः क्षितिपतिः क्षिति पीठ र (ल) म् ॥

Translation.

"In this (city) there flourished Sri Bappak, the lord of the earth, the gem of the surface of the earth and the moon among the kings of the family of Guhila."

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[1] Accordingly the chiefs of the Dūngarpur and Bānswārā States, under the Mewar Residency in Rājpūtānā, are called Rāvaljī and Mahārāvalji. In the Prākrita language राउलं and राअउलं are the corruptions of the Sanskrita राजकुलं meaning Royal Family, as—

चेटी—दह राअउले तं ते भोदु कंठट्ठिदं जं भअवं तिलोअणो सोसे समुब्बहदि ॥

विचक्षण—दह राजकुले तत्ते भवतु कंठस्थितं यद्भगवांस्त्रिलोचनः शीर्षे समुद्वहति ॥

(Kāvya-mālā, No. 14, p. 22.)

(I. A., Vol. XXXIX, Part XDV, p. 189).

Further, he has remarked, that it is an excusable mistake, that Ranpur, Achalgadh and Chitorgadh inscriptions, the late records, make Bapa the founder of the Mewar dynasty. But it is, in our humble opinion, not the mistake of any inscription, nor it is the mistake of this transcript of the Atāpura inscription even. It is undoubtedly our own mistake, that before writing anything, we do not master well and consider impartially the other side of the question, that is, the ancient Vallabhi theory, which is hitherto generally accepted, and make the simple things complicated by making hasty and far-fetched conclusions. Accordingly, the ancient Vallabhi theory, the other side of the question, plainly tells us, that there flourished four Guhadattas or Guhilas, from whom the ancient Vallabhi Guhilots of the Deccan or Gujarat and Kathiawar and the modern or Mewari Guhilots were originated. The first Guhadatta or Guhila was "Guhasen," the sixth ruling prince of Vallabhi. (See the genealogy of the Vallabhi dynasty appended to this paper as marked D). The second, according to Khyatis, was the grandfather of Bapa, and according to the following couplets of the Rayasagar inscription and (spurious) Ekalinga-mahatmya No. I, was the father of him (Bapa) :—

TEXT.

गुहादित्यसुताः सर्वे गहिलोताभिधायुताः ।
जाता युक्तं तेषु पुत्रो ज्येष्ठो बप्पाभिधो भवत् ॥ ६ ॥

TRANSLATION.

"6. Then all the sons of Guhaditya came to be called Guhilota: of them the eldest was called Bappa."

(B. I., page 30).

TEXT.

आनन्दपुर समागत विप्रकुलानंदनो महादेवः ।
जयति श्री गुहदत्तः प्रभवः श्रीगुहिल वंशस्य ॥
\+ + + + +
तनुजोस्य चैकलिंग प्रसादसंप्राप्तराज्य लक्ष्मीक ।
श्री मेदपाटवसुधाम पालयद्वाप्प एश्वीश्वः ॥ १६ ॥

TRANSLATION.

"Triumphant is the Brahmana Sri Guhadatta, who was (the cause of) delight to the Brahmanas family come from Anandapur, and who was the founder of the illustrious Guhila race.

\+ + + + + +

His son Bappa, the lord of earth, obtained the kingdom of Sri Medapata by the favour of the god Ekalinga."

(Ekalinga mahatmya No. I).

The third Guhila was the son of Bapa Ravala, who is mentioned in the following couplets of Ranapur, Achalgadh and Chitorgadh inscriptions:—

TEXTS.

श्रीमद्विक्रमतः १४९६ संख्य वर्षे श्रीमेदपाट राजाधिराज श्रीबप्प
१ श्रीगुहिल २ भोज ३ शील ४ (इत्यादि)-राणपुर)

बप्पकस्य तनयो नयनेता संबभूव नृपति गुहिलाख्यः।
यस्य नामकलितां किल गतिं भूभुजो दधति तत्कुलजाता ॥ १२ ॥

(अचलगढ)

तस्यात्मजः स नृपतिर्गुहिलाभिधानो।
धर्म्माच्छशास वसुधामधृजित्प्रभावः ॥
यस्माद्धौ गुहिलवर्णनया प्रसिद्धां।
गौहिल्यवंशभवराज गणोत्र जातिम् ॥ १३ ॥

(चीतोरगढ)

TRANSLATIONS.

I. In the year numbering 1496 after the illustrious Vikrama, the mighty potentate of Medapata, Sri Bappa, 1; Sri Guhila, 2; Bhoja, 3; Sila, 4; etc.

(Ranpur Inscription).

II. The son of Bappaka, a master in politics, became king (and was) called Guhila; the race bearing whose name is verily continued by kings born in his family.

(Achalgadh Inscription).

(B. I., pages 13 and 21.)

III. His (Bapa's) son by name Guhila became a king, he ruled over the earth with virtue of high spirit like Vishnu (Madhujit), from whom the kings of the Guhila family were called of the Guhila caste.

(Chitorgadh Inscription).

And the fourth was the posthumous son of Siladitya, the last king of Vallabhi, whose another name, according to Khyatis, was Keshavaditya (II). Accordingly, the Guhadatta or Guhila of the Atapura inscription is undoubtedly the Guhila III, son of Bapa. Because, the writer of this epigraph, leaving the names of Bapa and his ancestors, has commenced the genealogy from Guhila only, the son of Bapa, from whom the Mewari Guhilots have been originated; as all the names of the princes after him, when compared, are in perfect accordance with the names mentioned in the later inscriptions, with the exception of those ones only which are more in this earlier epigraph (see the comparative list of chiefs of Mewar appended to this paper as marked E). Moreover, it is not surprising that we find more or less names in all inscriptions of Mewar. We see in Mr. Bhandarkar's comparative list of chiefs even, that Mallata or Mattata's name is left out in the Achalgadh epigraph, though its writer and that of the Chitorgadh one is the very same Pandit, a Nagar Brahmana of our caste (see Appendix E). From this, it appears that the writer of every inscription has mentioned as many names only as he could know or ascertain, when he composed the inscription—so is the case of this Atapura inscription even, as it is plainly said in it—यस्यान्वये, i.e. in his (Guhadatta's) lineage so and so princes were, and not definitely that Guhadatta's son was Bhoja and so on. Therefore, it can be safely concluded, that the list of chiefs of every inscription before us is incomplete. And the reason why Bapa is called गुहिलगोत्रनरेन्द्रचंद्रः, the moon among the kings of the family of Guhila, in the inscription of Naravahana, is this,—that he belonged to the lineage of the ancient or former Guhilots. There were branches and sub-branches of the ancient or former Guhilas in existence before Bapa, which are praised in verses 5 and 6 of the Achalagadh epigraph as follows :—

TEXT.

शाखोपशाखाकुलितः सुपर्व्वा गुणोचितः पत्रविभूतांशः ।
कृतास्पदो मूर्द्धनि भूधराणां जयत्युदारो गुहिलस्य वंशः ॥ ५ ॥
यद्वंशो गुहिलस्य राजभगवन्नारायणः कीर्त्यते ।
तत्सत्यं कथमन्यथा नृपतय स्तं संश्रयंते तराम् ॥

मुक्तेः कल्पित येत सः (सैः) करतलव्यासक्त दंडोज्वलाः ।
प्राणत्राणधियः श्रियः समुदये न्यस्तापहस्ताः सदा ॥ ६ ॥

TRANSLATION.

5. "Victorious is the noble dynasty of the Guhilas, which is full of branches and sub-branches which consists of good members, which is worthy of good qualities, the shoulders (the members of) which are adorned with the feathers of the arrows, and which has taken up its position at the head of kings.

6. That the dynasty of Guhilas is celebrated as the Venerable Narayana amongst kings is true—who hold their staff intended for the release (of the poor and the indigent or for their own salvation) who appear glorious on account of the staff (of royalty or of Sannyastha) which they hold in their hands, whose minds are devoted to securing the safety of their lives, and who have given up plundering with the rise of fortune—always flock round to it for protection."

(B. I., page 12.)

Having praised thus the branches and sub-branches of Guhilas anterior to Bapa, the writer of the inscription has narrated the account of Bapa in verses from 7 to 11. And then he again has mentioned plainly the name of Guhila (III), the son of Bapa, from whom the modern Guhilots have been originated, in verse twelfth, which we have quoted above. Besides it is plainly said in verse sixth of the Raya-sagar inscription and in the couplets of the Ekalinga-mahatmya No. I, which we have quoted above, that Guhaditya or Guhadatta was the father of Bapa, from whom a branch of the Guhilots was also originated. Therefore, it is quite evident, that Bapa, being in the descent of former Guhaditya or Guhadatta or Guhila, was called a Guhilota in the inscription of Naravahana.

But the followers of the Anandapura theory do not accept the above-mentioned certain and incontrovertible conclusion and take a quite opposite view of the question to turn topsy-turvy the generally-accepted true history of Mewar, and to reconstruct a quite new history of the Guhilot chiefs of the Udaipur family. The presumptions of their theory are as follows :—

1. That the family of the Guhilot kings of Udaipur or Mewar State has no connection whatever with the kings of the Vallabhi dynasty.

2. But it is a separate independent dynasty of the Guhilots.

3. It is formed by Guhadatta or Guhil of the Atapura inscription, who flourished about A.D. 546.

4. Being the founder, Guhadatta, a Nagar Brahmana of Anandapura or Vadanagar, in Gujarat, the chiefs of Mewar were originally Nagar Brahmanas and afterwards they have become Kshatriyas, as they have hitherto been generally acknowledged or accepted, but they are Brahma-Kshatriyas, i.e. illegitimate Kshatriyas.

5. Bapa Ravala was called by the name Bapa Ravala, as he became a member of Ravalas, a sect of ascetics. He was either in the seventh or eighth or ninth generation of Guhadatta of the Atapur inscription and was not the founder and predecessor of the Mewar family as mentioned by the Ranpur, Achalgadh and Chitorgadh epigraphs.

6. The inscription of Siladitya lately found at Samoli, dated S. 703, and that of Aparajita, dated S. 718, belong to the Sila and Aparajita of the Atapura inscription, and not to their namesakes, who flourished before them.

There are such more presumptions of this theory, but we have mentioned here the most important ones only. With these presumptions, our readers should know and bear in mind one thing more, the peculiarity of this theory, that it recognizes as authorities all those inscriptions, works and khyatis only so far as they are found favorable to itself, whilst such portions of them, as are not so favorable, are rejected. For instance, in the Achalgadh inscription occurs the incident of Bapa's acceptance of Kshatriyaism in lieu of Brahmanaism. To this extent the inscription is accepted as an authority; but when in the same authority it is discovered that there were the branches and sub-branches of the Guhilots anterior to Bapa and his (Bapa's) son was Guhila, from whom the Mewar dynasty was designated as Guhilot, and he was the founder of the family, the authority is not accepted. Similarly, in the (spurious) Ekalinga-mahatmya No. I, it is said that Guhadatta was a Nagar Brahmana, he migrated from Anandapura and he was the progenitor of Guhilots—so far it is accepted as an authority; but when it says that there were these seven ancestors of that Guhadatta,—namely Vijayaditya, Kesawa, Nāgā Raulā, Bhoga Raula, Asadhara, Sri-deva and Mahadeva —and his son was Bapa, as it is said in the Ranpur and Raya-Sagar inscriptions also, it is rejected. There are other similar inconsistencies, which we have pointed out in their appropriate places in our critical notes on the Brief History of Mewar by Kaviraj Shyamaladan. These presumptions and peculiarity do not turn topsy-turvy the generally accepted history of Mewar only, but they create a great disagreement among the inscriptions also by wrongly attributing the inscriptions dated s. 703 and 718 to Sila and Aparajita, which really belonged to their namesakes, who flourished long before them, and thereby assigning also the mere conjectural date 546 A.D. to Guhila or Guhadatta of the Atāpura inscription. These

inscriptions themselves are not at variance but the adherents of this theory cause them to differ by their treating them in a far-fetched conjectural wrong way to accomplish their object. There is no need to take a wrong way of treating these epigraphs, leaving the right one, which we have stated above. Thus the question—who was really the founder and predecessor of the Mewar dynasty ?—is at present in great dispute and its final determination entirely rests on the opinions of those scholars only who are unbiassed by the beliefs and disbeliefs of the both theories. Because the great difficulty in solving this problem is—that the same authorities, which are cited by the followers of the Anandapura theory to prove the Brahmanic origin of the Guhilots, tell us in plain and decisive terms, that Bapa was आद्यः and आदिमूल, i e. the first founder of the Mewar Kingdom and family, and the so-called Guhadatta or Guhila was only the प्रभव, i.e. progenitor of the Guhilots, and not the first founder of the Mewar Kingdom. For, there is some difference in the senses of the terms 'progenitor,' i.e. one who begets before, and 'founder of a kingdom.' In the text of the couplet of this transcript of the Ātāpura inscription, as well as in the same of the (spurious) Ekalinga-mahatmya No. I, the Sanskrit term प्रभवः prabhava is used, which is interpreted by Mr. D. R. Bhandarkar to mean as 'founder,' but in the Sanskrit-English dictionaries of Professor Wilson, Mr. L. R. Vaidya and others it is plainly said to mean—"the operative cause, or immediate origin of being, as the father or mother, etc." Moreover, the same above-mentioned authorities of this theory show that, according to them even, there flourished three different Guhadattas or Guhilas, i.e., the first of the Mahatmya No. I was the son of Mahadeva and father of Bapa; the second of the Ranapur, Achalgadh and Chitor inscriptions was the son of Bapa; and the third of this transcript of the Ātāpura inscription was that whose father and other ancestors are yet unknown, but he was the father or predecessor of Bhoja. Accordingly the conjecture of the Anandapur theory regarding the Guhadatta or Guhila of the Ātāpura inscription is uncorroborated by epigraphic or some other evidence.

L. As Bapa's name has not been mentioned in this transcript of the Ātāpura inscription, Mr. Bhandarkar has attempted to identify him with Khumana I, who was the ninth in generation from Guhadatta or Guhila, while Pandit Gaurishankar Ojha has identified him with Kalabhoja, the eighth in descent and the author of the Rajputana Gazetteer firstly with Mahendraji II, the seventh in generation, in vol. I, and secondly with Kalabhoja and Mahendraji II in vol. II ,Parts A and B, saying that one of these two should be Bapa, but it is not certain (see Appendix E). Is it not surprising that these three great adherents of the Anandapura theory differ with one

another ? The reason why these scholars are in such a state of confusion, is that they have taken a wrong view of this transcript of the Ātāpura inscription and thereby they have created a great disagreement between it and later epigraphs. By reconciling this earlier inscription with the later ones, this confusion is totally obliterated at once, and then there would be no necessity for the identification of Bapa, and the both theories also shall be agreeable. In case the followers of the Anandapura theory strictly adhere to their own presumptions and the peculiarity of their theory, the opposition argues thus —when Bapa's name has not been mentioned in this transcript, or in other words, Bapa is quite unknown to this transcript, then why the adherents of the Anandapura theory so anxiously attempt to identify him against their own presumptions, which are stated above ? They have indeed nothing to do with this Bapa, as he is a prince of the Vallabhi theory, who obtained Chitor and founded the Kingdom of Mewar. They must establish some one elsé of their Ātāpura inscription on the throne of Chitor. Because their presumption is that the Mewar family has no connection whatever with the Vallabhi dynasty and it is a separate independent dynasty founded by Guhadatta of the Ātāpura epigraph, as it is clearly said by Pandit Gaurishankar Ojha in his following statement :—

TEXT.

१३-सन् १९०२ में हमने टांड साहिब का जीवन चरित्र लिखा उस समय तक टाड साहिब के लेखानुसार हम भी यही मानते थे कि मेवाड़ के राजा वल्लभी के खानदान से निकले हुए हैं, परंतु उस के पीछे के शोध से कितने एक प्रमाण ऐसे मिले' जिनसे पाया जाता है कि मेवाड़ के राजाओंका वल्लभी के राजाओं से कुछ भी संबंध नहीं है। मेवाड में गुहिलवंशका राज्य स्थापन करनेवाला गुहिल वा गुहदत्त गुजरात के आनंदपुर नामक नगर से आया था, ऐसा लिखा मिलता है।" (हिन्दी टोडस राजस्थान ए. ३१७)

TRANSLATION.

13. Up to 1902 when we wrote (Colonel) Tod's biography, we adhered to that the Kings of Mewar had sprung from Vallabhi family. But later research brought to light certain authorities, which go to show that the Kings of Mewar have no connection whatever with Vallabhi Kings. The founder of the Kingdom of Guhila family in Mewar was Guhila or Guhadatta, who came from a village named Anandapura in Gujarat. Such is the writing discovered.

(Hindi Tod's Rajasthan, p. 317.)

M. Similarly, on the chief authority of this transcript of the Ātāpura inscription, supported by the inscriptions of Achalagadh and others and the (spurious) Ekalinga-mahatmya No. I, Mr. Bhandarkar has established the Nagar-Brahmanic origin of the Kings of Mewar in his note on this transcript and a paper on 'Guhilots' recently published in the Journal and Proceedings of the Asiatic Society of Bengal. In his note on this transcript he says :—

"There now remains one point to be considered in connection with this inscription. It is in respect of verse 1. The translation of it is as follows :—

"Triumphant is Sri-Guhadatta, the founder of the Guhila family, a Brahmana, the delighter of the Brahamana family, migrated from Anandapura."

"Here then Guhadatta, the founder of the family, is called a Brahmana, and spoken of as belonging to a family originally of Anandapura, i.e. Vadnagar ; in other words Guhadatta was a Nagar-Brahmana. This points to the Brahmanic origin of the Udaipur dynasty, further proofs in support of which are by no means wanting. All these have been set forth by me in my paper on the Guhilots recently contributed to the Journal of the Bengal Asiatic Society. I have also therein discussed the question how, if they were originally Brahmanas, they came to be amalgamated with the Kshatriyas. I shall, therefore, refrain from dwelling on these points here."

(I. A., Vol. XXXIX, Part XDV, p. 190.)

And in his above-mentioned paper he has made the following certain and incontrovertible conclusion :—

"That the Guhilots were originally Nagar Brahmanas, afterwards became Kshatriyas, is certain and incontrovertible."

(J. and P. of the A.S.B., Vol. V, No. 6, pp. 167—87.)

As regards the so-called Nagar-Brahmanic origin of the Chiefs of Udaipur or Mewar, we have to say that this point has concerns in both theories. In the generally accepted ancient Vallabhi theory it is accepted to be unreal and in that of the Anandapura as certainly real. The Khyatis of the former theory let us know that there were twice reverses, while the family of the Guhilots was preserved by the family priest or Purohita, the Nagar-Brahmana of Anandapura. One of them is concerned with the secret birth of Bapa in the house of Ravala Visvesvara Bhatta and his son Raghuraya A piece of the story of Bapa's secret birth we have stated above in para. J, and it is narrated in detail in a Khyati No. 7 in our library. Being brought up by the sacerdotal class Bapa became

a Brahmana in his habits and modes of life only. Thus his Brahmanism is believed to be unreal in the Vallabhi theory. Now to the so-called real Nagar-Brahmanism of the Anandapura theory, we have to say that it is accepted to be certainly and incontrovertibly real by its followers on the chief authority of this transcript and the corroborative evidence of the Achalgadh inscription and Ekalinga-mahatmya No. I. Now we proceed to examine these authorities and see what they really let us know on this most disputed point. The following are the couplets of these authorities :—

I. Transcript of the Ātāpura epigraph—

TEXT.

आनन्दपुरविनिर्गतविप्रकुलानंदनो महीदेवः ।
जयति श्रीगुहदत्तः प्रभवः श्रीगुहिलवंशस्य ॥ १ ॥

TRANSLATIONS.

By Mr. D. R. Bhandarkar—

"Triumphant is Sri-Guhadatta, the founder of the Guhila family, a Brahmana, and the delighter of the Brahmana family, emigrated from Anandapura."

(I. A., Vol. XXXIX, Part XDV, p. 190.)

Colonel Tod's translation—

"From Anundpoor came he of Brahmin race (may he flourish) Mahee Deva Sri Goha Dit, from whom became famous on the earth the Gohil tribe."

(Tod's Rajasthan, Vol. I, p. 706.)

A Pandit's translation—

"Triumphant is the king (Mahideva, literally lord of the earth) Sri-Guhadatta, the delighter of the Brahmana family (and) progenitor (prabhava) of the Guhila family, (who) came out from Anandapura.

II. (Spurious) Ekalinga-mahatmya No. I.

TEXT.

जयति तथानन्दपुरे नागरकुलमंडनो महीदेवः ।
यजनादिकर्मकुशलो विजयादित्याभिधो विप्रः ॥ २ ॥
\+ + + +
यदुक्तं पुरातनैः कविभिः ।
आनन्दपुरसमागत विप्रकुलानन्दनो महीदेवः ।
जयति श्रीगुहदत्तः प्रभवः श्रीगुहिलवंशस्य ॥ ८ ॥

TRANSLATION.

By Mr. D. R. Bhandarkar—

(V. 2). Similarly, triumphant is the Brahmana named Vijayaditya, the ornament of the Nagar family in Anandapura, a god on earth, and proficient in sacrificial and other rites. As said by the ancient poets—

(V. 8). Triumphant is the Brahmana Sri-Guhadatta, who was (the cause of) delight to the Brahmana family come from Anandapura, and who was the founder of the illustrious Guhila race.

(J. and P. of the A.S.B., Vol. V, No. 6, pp. 171—72.)

By the author of the Bhavanagar Inscriptions—

"Victorious is Sri-Guhadatta, the founder of the Guhila race, the delight of the family of Brahmanas and come from Anandapura (Wadhwan)."

(B. I., p. 13.)

By a Pandit—

Similarly, in Anandapura, triumphant is the king (Mahideva, literally lord of the earth), patron (mandano, literally ornament) of the Nagar family, named Vijayaditya, a Brahmana (Vipra) proficient in sacrificial and other rites.

III. Achalgadh Inscription.

TEXT.

हारीतात्किल वप्पकोंऽक्रि (घ्र) वलय व्याजेन लेभे महः ।
क्षात्रं धाष्टनिभाद्वितीर्य मुनये ब्राह्मं स्वसेवाफलात् ॥
रातेद्यापि महीभुजः क्षितितले तद्वंशसंभूतयः ।
शोभन्ते सुतरामुपात्तवपुषः क्षात्रा हि धर्म्मा इव ॥ ११ ॥

TRANSLATION.

"11. From Harita, resembling the Creator, Bappaka, so the tale goes, obtained regal splendour in the guise of an anklet, after he had bestowed on the sage priestly (splendour) under the guise of his devotion. Even now these princes here, who are born in his race, are shining intensely on the surface of the earth, verily, like the regal deities in bodily form."

(J. and P. of the A.S.B., Vol. V, No. 6, pp. 169—70).

From the above-mentioned different translations, it is plain that the interpretations of the terms नागरकुलमंडनो and

महीदेवः are in dispute. Colonel Tod has not interpreted the term महीदेवः And Mr. Bhandarkar has interpreted it, in the second verse of the Mahatmya, to mean—'a god on earth'—and in verse first of this transcript and eighth of the Mahatmya—'a Brahman,' but another Pandit has interpreted it to signify —a king, i.e literally the lord of or on the earth. Likewise the term नागरकुलमंडनो has been interpreted by Mr. Bhandarkar as—'the ornament of the Nagar family'; while by the same another Pandit to mean—patron of the Nagar family, i.e. mandano, literally ornament or embellishment, hence a patron. The explanation of the Pandit, who differs from Mr. Bhandarkaa, is, that as Mr. Bhandarkar's aim or object in view was to establish the Nagar-Brahmanic origin of the Chiefs of Mewar, he has interpreted the terms at his choice. And he (the Pandit) having ascertained from the verses before and after the verse eighth of the Mahatmya in dispute, that Guhadatta was really a king, and that there is a double entendre on the word महीदेवः which means a Brahmana as well as a king, has preferred the latter meaning, and thereby he has interpreted the term नागरकुलमंडनो to mean—'the patron of the Nagar family.' In the first couplet of this transcript and in verse the eighth of the Mahatmya No. I, which is quoted by its author as the saying of some ancient poet, there is in both the same reading of the term विप्रकुलानंदनो meaning the delighter of the Brahmana family, but its author in his own first verse has changed it as नागरकुलमंडनो meaning the ornament (or patron) of the Nagar family. Accepting the presumption of the Anandapura theory even, it is obvious that the general Brahmanism of Guhadatta, which is shown by the ancient authorities, has been changed, that is, it is made particular or special Nagar-Brahmanism by this later authority, the author of the Mahatmya No. I. The author of this Mahatmya No. I has not changed the aforesaid term only, but he has twisted the next couplet also, which has not been noticed, nor quoted by Mr. Bhandarkar. The following is that verse :—

TEXT.

श्रीमान् भूत् भवति गुहिलाभिधानो
धर्म्माच्छशास वसुधां मधुजित्प्रभावः ॥
यस्माद्धौ गुहिलवर्णनया प्रसिद्धम् ।
गौहिल्यवंश भवराजगणोत्र जातिम् ॥ ६ ॥

This ninth stanza of the Mahatmya is really the thirteenth of the Chitor inscription, dated (V.S.) 1331 = A.D. 1274; and the Mahatmya is said to have been composed in the reign of Rana Kumbha, who, according to the Gazetteer, ruled from A.D. 1433 to 1468. Thus the Chitor epigraph is an earlier authority. Here the author of the Mahatmya has plainly prefaced the eighth stanza with the words यदुक्तं पुरातनैः कविभिः meaning—'as said by the ancient poets.' Accordingly it is clear beyond doubt that this verse is borrowed from the Chitor inscription, which is in it in relation of Guhila, the son of Bapa. But it is strange that the author of the Mahatmya, having taken out तस्यात्मजः the term in the beginning of the first verse of the stanza, meaning—'his (Bapa's) son'—and added his own reading श्रीमान्भूत् in its stead, meaning—'His Highness (Guhadatta) became'—has cited the stanza and attributed it to Guhadatta of the preceding couplet, to make him Guhila. Such twisting is found at many places in this work, which has confused the history of Mewar. We will show it to the antiquarian public, as soon as the manuscript of it will see the light of the day. For, it is still as a sealed book, though its discovery has publicly been announced and praised much by the followers of the Anandapura theory. It is also said, regarding the manuscript of this work, by them, that this is the first time that it has lately been discovered by Pandit Gaurishankar Ojha, which was quite unknown before, like the whereabouts, etc., of the Gyanji Jati. But it is entirely untrue, as it was well known to us, the Kaviraj and other persons of Mewar and abroad. Pandit Ojha: I recollect was employed under the late Kaviraj Shyamaladan in A.D. 1888, but we have the copies of the manuscript from long before the employment of the Pandit in Mewar, and it was so known abroad as well, that the author of the Bhavanagar inscriptions has cited a quotation from it in his work in A.D. 1885. No doubt, it might have been quite unknown to the young scholars of the Anandapura theory. I have quoted above the stanza ninth of it from our own manuscript, because the so-called lately discovered manuscript is unavailable to the public as yet.

It is worthy of note, that in the above-quoted stanzas from the transcript of Atāpura inscription and Mahatmya No. I, it is said that Guhadatta came from Anandapura, and all other authorities, namely, the inscriptions of Chitor and Mama-deva and the Khyati of Muta Nensi, etc., which are taken in corroborative evidence by Mr. Bhandarkar to establish the Nagar-Brahmanism, tell us clearly that Bapa came from Anandapur. This place Anandapur has been identified to be Vadnagar of the Nagar-Brahmanas in Gujarat by Mr. Bhandarkar. But the

(genuine) Ekalinga-mahatmya No. II, which is said to have been composed in the reign of Rana Rayamall, the son of Rana Kumbha, lets us know the contrary in the following verses, that this place Anandapura was near Chitor in Mewar and Shiva Sharma, the father of Bapa, came therefrom, as well as on his death, his son Bapa and brothers, etc., the family members came at Ekalingaji from that Anandapur :—

TEXT.

तस्य चारित्रमाकर्ण्य प्राप्नुयात्परमां गतिम् ।
मेदपाटस्य मध्ये यच्चित्रकूटस्य संनिधौ ॥ ८ ॥
अघानंदपुरंनाम पत्तनं महदद्भुतम् ।
तत्रासीच्छिव शर्माख्यो ब्राह्मणो वेदपारगः ॥ १९ ॥
+ + + +
तपश्चचार सुमहच्छिवशर्माथ सद्विजः ।
अंते सन्यस्य विधिना परं धाम ययौ पसः ॥ २५ ॥
अपरे भ्रातरः सर्वे काले कालवशंगताः ।
ततः सबाप्पः सुमहत् पितुरंतेष्टिमादरात् ॥ २६ ॥ (अध्याय १९)

Now to another corroborative authority of Mr. Bhandarkar, the inscription of Achalgadh. It is surprising that while he made his certain and incontrovertible conclusion regarding the Nagar-Brahmanic origin of the Chiefs of Mewar, he has not very carefully considered these most important questions, which arise themselves here. Firstly, what is really meant by the term खसेवाकुलात् which is used in the following stanza of the Achalagadh inscription :—

TEXT.

हारीतात्किल वर्ष्यकोंङ्घ्रि (घ्रि) वलय व्याजेन लेभेमहः ।
च्छात्रंधाल्लनिभादितीर्थ मुनये ब्राह्मं खसेवाकुलात् ॥
एते चापि महीभुजः क्षितितले तदंशसंभूतयः ।
शोभन्ते सुतरामुपात्तनृपः च्छात्रा हि धर्मा इव ॥ ११ ॥

TRANSLATION.

11. "From Harita, resembling the Creator, Bappaka, so the tale goes, obtained regal splendour in the guise of an

anklet, after he had bestowed on the sage priestly (splendour) under the guise of his devotion. Even now these princes here, who are born in his race, are shining intensely on the surface of the earth, verily, like the regal deities in bodily form."

(J. and P. of the A.S.B., Vol. V, No. 6, pp. 169—70.)

It is quite evident that this term स्वसेवाछलात् really means here 'by his deceptive devotion,' which it was, that Bapa knew well and he told also to the sage, that he was really a Kshatriya, but he served him in the appearance of a Brahmana. Consequently they both exchanged at last their so-called Brahmanism and Kshatriyaism. Thus, this authority does not establish the real Brahmanism of Bapa. But on the other hand, it proves indirectly that the alleged Brahmanism of Bapa's eight ancestors also was unreal, because it was not dissimilar to that of Bapa. This Nagar-Brahmanism is established on the sole authority of the (spurious) Mahatmya No. I. If we take its assertion to be true, then the whole Mewar family from Vijayaditya to the present Maharana of Udaipur must be the Nagar-Brahmanas and they are not yet made Kshatriyas, because the story of Bapa or any of his successors exchanging the Brahmanism has not been related in this Mahatmya. Therefore, they are the same Nagar-Brahmanas as their forefathers were.

Secondly, he has also not considered and settled the question of the रोटीबेटीव्यवहार, i.e. eating and marrying intercourse of the anterior ancestors and posterior successors or descendants of Guhadatta with the Nagar-Brahmanas, the members of his caste, which is indispensable or important in the highest degree amongst the Hindus in the matters of caste, that is—were they all eating and marrying among the Nagar-Brahmanas only according to their custom and had no concern whatever with the Rajput ruling princes of their time? When their so-called Nagar-Brahmanism of fifteen or sixteen generations old was publicly well known to their contemporary Rajput ruling princes, then, on Bapa's exchanging his Brahmanism with sage Haritarasi, how and why the eating and marrying intercourse of so long a standing was instantly stopped and a quite new one was established by the Rajput ruling princes of all races with Bapa and his successors, and they were unquestionably acknowledged at once as the legitimate representatives of the Solar Race, instead of having been treated as Brahmana kings or illegitimate Kshatriyas?

The interpretation with its explanation of a Pandit, which we have given above, is worthy of careful consideration. For, the dispute of Nagar-Brahmanic origin of the Chiefs of Mewar

entirely depends on the true interpretation of these three terms—1. Mahīdēva; 2. Vipra-Kulāmandanō; and 3. Nagar-Kulamandano. They are all compound Sanskrit words, and the first of them, i.e. Mahideva, is the chief term, on the true interpretation of which the final determination of the truth of this vexed question entirely depends. In examining the meaning of the term Mahideva, we see that it is undoubtedly a compound Sanskrit word, formed of Mahi, the earth, and deva, a king or a Brahmana. There is, of course, a double-entendre on this word Mahideva which means 'a king' as well as 'a Brahmana.' It is an epithet or attribute of Guhadatta or Vijayaditya expressing the real quality ascribed to them, that is, it expresses that they were really kings, and no doubt at all that they were the kings, who were the delighter of the family of Nagar-Brahmanas. Mr. Lakshmana Ramchandra, M.A., LL.B., and Professor Wilson have given in their Sanskrit-English Dictionaries the both meanings of this most disputed term deva, 'a king' or 'a Brahmana.' Besides the term deva is also a title of honour used in addressing a king as—"Your Majesty." In this meaning it is used in Kavyaprakasha X as —देवाकर्णय येन येन सहसा यद् यत् समासादितम्. When the word deva is susceptible of double interpretation here, we must prefer the appropriate meaning of a king and not that of a Brahmana, the far-fetched meaning, which make the Princes of Mewar of the Nagar-Brahmanic origin, to whom all Hindus yield unanimous suffrage, as the legitimate representatives of the Solar Race and style them 'Hindua Suraj' or the 'Sun of the Hindus,' and who are universally acknowledged to be the head of the thirty-six tribes of Rajputs, whose purity of descent has never been doubted. Thus, when a term is plainly susceptible of double interpretation, then it is, in our humble opinion, quite unnecessary to prefer an inappropriate or far-fetched meaning of it.

IV. There now remains one point only, the question of dates of Guhadatta or Guhila and that of his successors or descendants to be critically examined in connection with this transcript. Mr. Bhandarkar has given the following dates of the earlier Kings of Mewar in his paper on Guhilots and in his list, copy of which is appended to this paper by us as marked E:—

1. Guhadatta or Guhila, A.D. 546.
5. Sila, V.S. 703.
6. Aparajit, V.S. 718.
9. Khumman I. *alias* Bappa: abdicated his throne in V.S. 810.
17. Allata, V.S. 1008 and 1010.
18. Naravahana, V.S. 1028.
20. Saktikumara, V.S. 1034.

The date of Guhadatta or Guhila of this transcript of the Ātāpura epigraph has conjecturally been fixed to be A.D. 546 by Mr. Bhandarkar in his paper on Guhilots thus :—

"On the other hand the earliest prince of the Guhilot dynasty, for whom a date has been obtained, is Sila, and his date is V.E. 703 = A D. 646, nearly one-hundred and twenty years before the time of the last Vallabhi ruler. This Guhila Sila again was five generations removed from Guhadatta, the founder. This takes Guhadatta to circa 546 A.D." (J. and P. of the A.S.B., vol. V., No. 6, p. 181.) Further he has said in his same paper that Guhadatta came from Anandapura or Vadanagar, of Gujarat in Mewar, and he was really a Nagar-Brahmana.

But the author of the new Rajputana Gazetteer has asserted the contrary in his two following statements :—

I. "About the middle of the sixth century a member of the family then ruling at Vallabhi appears to have established himself in Idar and the hilly tract in the south-west of Mewar. His name was Gohaditya or Gohil and his descendants were called after him Gohelots or Gahlots."

(R.G., vol. II. A., p. 13.)

II. "He is said to have come from Kathiawar in the sixth century and settled in Idar and south-western Mewar, the Gahalot clan is named after him."

(R.G., vol. II. B , p. 8.)

From the above, it is quite evident that the dates shown or fixed for Guhadatta by the both scholars are absolutely conjectural and their assertions regarding other incidents are contradictory also. Because Mr. Bhandarkar has said that Guhadatta came from Anandapur in Gujarat and the author of the Gazetteer has plainly said that he came from Kathiawar and settled in Idar and the hilly tract of south-western Mewar, while the author of the Bhavanagar inscriptions has identified Anandapura with Wadhwan and the (genuine) Ekalinga-Mahatmya No. II has mentioned that it was near Chitor in Mewar, which we have stated elsewhere. Further, it is clear from the aforesaid statement of Mr. Bhandarkar, that he has conjectured the date of Guhadatta on the sure basis of Siladitya's inscription only, dated V.S. 703, which is lately found at Samoli, in the Bhumat district, Mewar. How he has attributed this inscription to Sila of this transcript, he himself has said only this :—

"It was originally found at Samoli in the Bhumat district, Mewar. The inscription is dated (V.S.) 703 = A.D. 646, and refers itself to the reign of Siladitya. It then informs us that one bania Jentrika, who was a native of Vatanagara, built a state to a goddess. Vatanagara is, of course, Vasantgadh in the Sirohi district, whose antiquities have been described by me in the Prog. Report for 1905-06. Siladitya is undoubtedly

Sila, the prince who was one of the earliest Guhila kings. His name no doubt occurs in the dynastic lists of Mewar princes furnished by the Chitorgadh, Achalgadh and Ranpur prasastis, but had been thought to be more or less fabulous. But now his historical existence is attested by the Samoli inscription, which also furnishes a specific date for him."

(Prog. Rep. Archæol. Surv., Western Circle, for 1908-09, pp. 48—49.)

And in his note on this transcript he has said :—

"Sila must be the same as Siladitya, of whom an inscription has been found at Samoli in the Bhumat district, Mewar. It is dated V.S. 703 = A.D. 646."

(I.A., vol. XXXIX, Part. XDV, p. 189.)

In these statements no reason is given by Mr. Bhandarkar for his identifying Siladitya with Sila of the Ātāpura inscription, but it is said only, that—

"Siladitya is undoubtedly Sila, the prince who was one of the earliest Guhila kings."

"Sila must be the same Siladitya, of whom an inscription has been found at Samoli in the Bhumat district, Mewar."

These are only the assertions of Mr. Bhandarkar, but no reason at all, that the doubt of a sceptic may be completely set at rest. Because the opposition boldly affirms that this inscription of Siladitya and that of Aparajita also have wrongly been ascribed to Sila and Aparajita of this transcript by the followers of the Anandapura theory, as they really belong to their namesakes who flourished long before Guhadatta even. This fact has already been stated by us in para. K. Therefore, it is plain that on the basis of the wrong conjectural identification of Siladitya with Sila, the merely conjectural date has been fixed for Guhadatta.

Further, Mr. Bhandarkar has not taken the trouble to consider and discuss these most essential questions in his note and paper in connection of Guhadatta :—

1. On what well authenticated proof it is accepted, that Guhadatta's another name was Guhila, because it is not said in the first couplet of this transcript, but it is plainly said only in it—प्रभवः श्रीगुहिलवंशस्य, that he was the forefather or progenitor of Sri-guhila family ?

2. When Guhadatta emigrated from Anandapura, was he a common Nagar-Brahmana, or a ruling prince of the Nagar-Brahmana caste ?

3. If he was really a ruling prince, does the history of Gujarat or Kathiawar tell us that there was ever or about A.D. 546, or the middle of the sixth century, a Nagar-Brahmanic kingdom of Anandapura or Vadnagar in existence, of which the eighth ruling prince, Guhadatta, emigrated to Mewar ?

4. Why Guhadatta, such a most powerful and illustrious ruling chief of the (spurious) Mahatmya No. I. and Ātāpura inscription, having abandoned his own flourishing hereditary Kingdom of Anandapura, came to the hilly and desolated country of Mewar to found a quite new kingdom ?

5. How and from whom Guhadatta conquered and obtained the country of Mewar, which place was his capital; what were the boundaries of his kingdom; was Chitor and the plain part of the country of Mewar in his possession; when he was certainly the king of the whole Mewar, then why in all and every inscription, historical works, Khyatis and other traditions even, with the exception of this transcript only, is it unanimously said that Bapa was the first founder and predecessor of the present Mewar Kingdom and family, who received a boon from the god Sri Ekalingji to obtain Chitor or the kingdom of Medapata or Mewar in Samvatsar 810, or he abdicated the throne in that year ?

Similarly, Mr. Bhandarkar having taken Bapa and his date (v.s.) 810 from the both Ekalinga-Mahatmyas Nos. I and II, has identified him with Khammana I of the Ātāpura inscriptions, that is, Khumman is made Bapa and Bapa's date of abdicating the throne is assigned to him thus :—

"9. Khommana *alias* Bappa, abdicated his throne in v.s. 810."

"The date 810 for Bappa, therefore, deserves some credence. Let us see with what Guhila prince in the dynastic list this date enables us to identify Bappa. The date for aparajita is v.s. 718 and for Allata 1010. Here, then, we have a period of 292 years extending over twelve generations. This calculation would give 24½ years to each one of these g nerations. The difference between 810, the date of Bappa, and 718, that of Aparajita, is 92, and, by assigning 24½ years to each generation, we find that Bappa has to be placed in the fourth generation from Aparajit. Now, the Guhilot prince, who was in the fourth generation from Aparajita, is Khommana I. Bappa must, therefore, be identified with this Khommana." (I. A., vol. XXXIX, Part XDV, p. 190).

But this conjecture is utterly untrue and far-fetched. Because Bapa and all incidents of his life have no concern whatever with the Anandapura theory, but they really belong to the Vallabhi theory. His name has not been mentioned in the Ātāpura inscription. It has not yet been satisfactorily proved by well-authenticated proof that Khummana's another name was Bapa or Bapa's another name was Khummana I. Bapa, whose name and date (v.s.) 810 are taken in this identification from the both Mahatmyas Nos. I and II, was, according to them, the son of Guhadatta or Shiva Sharma, and this date v.s. 810 is also said to be the date of his receiving the boon from the god Sri Ekalingaji to obtain the kingdom

of Mewar, as mentioned in Mahatmya No. I. It is strange that such Bapa, whose name as well as all the incidents of his life are quite different, has been identified with such a quite different Khammana of the Atāpura inscription, who was the son or successor of Kalabhoja and father or predecessor of Mattata. It is more surprising that in contradiction to Mr. Bhandarkar's this identification and assigning the date. Pandit Gaurishankar Ojha, who is unusually praised for his antiquarian qualifications and warmly thanked for his supplying the so called valuable materials and informations by Mr. Bandarkar and the author of the new Gazetteer of Rajputana, has identified Bapa with Kalabhoja, the son or successor of Mahendraji II, and father or predecessor of Khummana I in his following statement :—

TEXT.

"८— कालभोज (बापा) मेवाड़ का प्रसिद्ध राजा बापा या बापा रावल यही होना चाहिये, जिस को डूंगरपुर इलाके से मिले हुए कितने एक शिलालेखों में खुम्माण का पिता लिखा है, और ऐसा ही मेवाड़ की ख्यातों में लिखा मिलता है। राणा रायमल्ल के समय के एक लिंग महात्म्य से पाया जाता है कि उसने वि. सं. ८१० (ई० स. ७५३) में राज्य छोड़ा था॥"

(हिन्दी टोड राजस्थान पृ० ३२१)

TRANSLATION.

8. Kalabhoja (Bapa)—This alone should be the Bapa Ravala, the famous King of Mewar, who is mentioned as the father of Khummana in several inscription-stones found in the districts of the Dungarapura State, and the same is related in the Khyatis of Mewar. It is known from the Ekalinga-Mahatmya, composed in Rana Rayamalla's reign, that he (Bapa) abdicated his throne in V.S. 810 = A.D. 753.

(Tod's Rajasthan in Hindi, p. 321.)

While the author of the Rajputana-Gazetteer has firstly identified Bapa with Mahendraji II, the son or successor of Aparajita and father or predecessor of Kalabhoja, in his Vol. I, p. 109 :—

"The sixth chief after Gohaditya was Mahendra II, better known as Bapa";

and secondly in his Vol. II A., p. 13, with Mahendraji II, and Kalabhoja :—

"Mahendraji II; Kalabhoja.—One of the two last (it is not certain which) was better known as Bapa, and had his

capital at Nagada, about twelve miles to the north of the present city of Udaipur."

And thirdly, in his Vol. II B., p. 8, he has said as follows :—

"Mahendraji II; Kalabhoja.—One of these two was Bapa Rawal, who is said to have taken Chitor from Mansingh Maurya, in 734, and to have died in 753."

Thus, it is clear beyond doubt, that these three scholars, the followers of the Anandapura theory, are at variance regarding both the identification of Bapa and his date. While Mr. Bhandarkar and Pandit Ojhaji say that v.s. 810 is the date of Bapa's abdicating his throne, the author of the Gazetteer asserts that, that is the date of Bapa's death; and at the same time the (spurious) Ekalinga-Mahatinya No. I contradicting them all, tells us that, that is the date of Bapa's receiving the boon from the god Sri Ekalingajji to obtain the kingdom of Medapata or Mewar. Amidst such contradictions the identification of Khumman I of this transcript with Bapa is made and the date v.s. 810 is also assigned to him, when the ascertainment of truth seems impossible.

As regards the remaining dates of Allata, Naravahana and Saktikumara there is, at present, no dispute. And regarding the dates of Sila and Aparajit we have plainly said elsewhere, that they have wrongly been attributed to their later namesakes.

In conclusion, we have to say that our object in contributing this paper to the Journal of the Society is nothing else but to lay both the sides of the most disputed questions of the history of Mewar before our readers for their information and careful consideration. Therefore, we have discussed, according to the contentions of the both theories, all those points only which Mr. Bhandarkar has touched in his note on this transcript of the Ātāpura inscription. Now we, at last, leave the matter to be judged by our readers, that the so-called far-fetched conjectures of these theories are really the facts or otherwise.

APPENDICES.—A.

No. V.

Inscription from the ruins of Aitpoor.

In Samvatsir 1034, the 16th of the month Bysak, was erected this dwelling [1] of Nanukswami.

From Anundpoor came he of Brahmin [2] race (may he flourish) Mahee Deva Sri Goha Dit, from whom became famous on the earth the Gohil tribe:

2. Bhoj.
3. Mahindra.
4. Naga.
5. Syeela.
6. Aprajit.
7. Mahindra, no equal as a warrior did then exist on the earth's surface.
8. Kalbhoj was resplendent as the sun [3]
9. Khoman, an equal warrior; from him.
10. Bhirtripad, the Tiluk of the three worlds, and from him was
11. Singji, whose Ranee Maha Lakmee, of the warlike race of Rashtra (Rathore); and from her was born
12. Sri Ullut. To him who subdued the earth and became its lord, was born Haria Devi, her praise was known in Hurspoora; and from her was born a mighty warrior in whose arm victory reposed; the Khetri of the field of battle, who broke the confederacy of his foes, and from the tree of whose fortune riches were the fruit: an altar of learning: from him was
13. Nirvabana.—By the daughter of Sri Jaijah, of Chauhana race, was born
14. Salvahana.

Such were their (the princes whose names are given) fortunes which I have related. From him was born

15. Secti Koomar. How can he be described?—He who conquered and made his own the three qualifications (sacti) [4] (a) whose fortunes equalled those of Bhirtripad. In the abode of wealth Sri Aitpoor, which he had made his dwelling, surrounded by a crowd of princes, the kulpdroom to his people, whose foot soldiers are many, with vaults of treasure; whose

---

[1] Aitun. [2] Vipra Cula. [3] Ark.
[4] Pribboo. Ovtchha. Muntri. } Three Sactis.

fortunes have ascended to heaven; whose city derives its beauty from the intercourse of merchants, and in which there is but one single evil, the killing darts from the bright eyes of beauty, carrying destruction to the vassals of the prince.

B.

Copy of Transcript of the Ātāpura inscription, published by Mr. Devadatta Ramkrishna Bhandarkar, M.A., in the *Indian Antiquary*, vol. XXXIX, Part XDV, page 191.

Text.[1]

संवत्सरशतेषु दशसु चतुत्रिंशत्यधिकेषु[2] वैशाखशुक्ल प्रतिपदि संवत् १०३४ वैशाखशु क्लप्रतिपदतिथौ श्रीनागिश्वामिदेवायतनं कारापितं[3] ॥

आनन्दपुरविनिर्गत विप्रकुलानंदनो महीदेवः ।
जयति श्रीगुहदत्तप्रभवः[4] श्रीगुहिलवंशस्य (॥ +) (१)
यस्यान्वये जगति भोजमहेन्द्रनाग
श्रीलापराजित महेंद्रजायतैकवीरः[5]
जातैर्यथार्क[6] समशोभितकालभोज
खोम्माण– ∪ ∪ नृपैः[7] सहभर्टपटैः[8] ॥ (२)
सिंघोभवत्तदनु तद्भुवीपि[9] "जज्ञे
खोम्माण इत्यथ सुतोस्य महायको भूत् ॥

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[1] This is nothing but a copy of the transcript prepared by Gyan Chand Jati, now lying in the Jaina bhandar at Mandal.

[2] Read चतुस्त्रिंशद ।

[3] Read कारितं ।

[4] Read गुहदत्तः ।

[5] जायतैकवीरः violates the metre and makes no sense. The whole verse is cited in an unpublished copper-plate inscription found at Kadmal, dated v.s. 1140, and referring itself to the reign of Vijayasimha. It gives the reading महेन्द्रभट्टैनवीरैः The true reading appears to be महेन्द्रभटैकवीराः ।

[6] Read जाता यथार्क ।

[7] Supply भट्ट before नृपैः in accordance with the Kadmal inscription.

[8] This name occurs as भर्ट भट्टः ।-also in the Kadmal and Chatsu inscriptions, though the later inscriptions have भर्ट भटः ।

[9] Read तस्य सुतोपि as in the Kadmal inscription.

खोम्माणमात्मज मवाप स चाय तस्मा
ल्लोकत्रयैकतिलको जनि भर्ट्टपट्टः[1] ॥ (३)
राष्ट्रकूटकुलोद्भूता महालक्ष्मीरिति प्रिया ।
अभूदस्याभवत्तस्यां तनयः श्रीमदल्लटः ॥ (४)
स भूपति या[2] यस्य ऊणत्तोणीश्वंश्वजा ।
ह्रिय देवी यशो यस्या भाति हर्षपुरञ्जयं[3] ॥ (५)
अनिकलकलाधारोधीरः स्फुरदूर लसत्करो
विजयवसतिः क्षत्रक्षेत्रं क्षताहतिसंहतिः ।
समजनि जना — — — — प्रताप तरूद्भुतो
विभवभवनं विद्यावेदो नृपो नरवाहनः ॥ (६)
चाऊमानान्वयोद्भूत श्रीजेजयन्नृपात्मजा[4]
राजा जयति[5] ग्गालिवाहनः इति[6] ख्यात प्रतापस्ततः? (८)
ततः ग्रक्तिकुमारोभूत्सुतः ग्रक्तित्रयोर्जित[7]:
भर्ट्टपट्टाभिधाश्रीश्च[8] प्राप राष्ट्रमधापयत् ॥ (९)
श्रीमदाटपुर—युतालयं यस्य वास इति संपदां पद ।
यत्र संति नृपुंगवाः समं कल्पपादपपदातगामिनः ॥ (१०)
स्यातं कनकादिकंदरग्रहो दीर्घं प्रतापं दिवि
ख्यातं नैक वाणिग्विशाल विभवो भूताभिशोभं शुभं ।
दोषो यत्र परं विशालनयन स्त्रीवारलोकेक्षणैः
भ्रत्यादृष्टिमनानि निर्धकलनां नीयत्न स्वच्छं नराः[9] ॥ (११)

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[1] See note 9 above.

[2] Read तिः प्रिया

[3] Read । पुराञ्जयं ।

[4] This and the following are two lines from two different verses of two different metres.

[5] Read राजाजायत ।

[6] Read वाहन इति ।

[7] Read त्रयोर्जित. ।

[8] Read पुराञ्जयं ।

[9] The text of this and the following verse is corrupt and is full of mistakes

श्री वटस्थाने समावासः पुरमास्तेयसंपदां ।

यद्यथा चिंतितं यत्र पुंसां भागे[1] + + ॥ (१२)

C.

Copy of Transcript of the Ātāpura inscription, which the late Kaviraj Shyamaldan got from the pupil of Gyanji Jati of Mandal.

TEXT.

संवत्सरशतेषु दशसु चतुश्चिंशत्यधिकेषु वैशाखशुक्लप्रतिपदिसंवत्

१०३४ वैशाखशुक्ल प्रतिपदातिथौ श्रीनानिगस्वामि देवायतन कारापितं ॥

यादन्दपुरविनिर्गत विप्रकुलानंदनो महीदेवः ।

जयति श्रीगुहदत्त प्रभवः श्रीगुहिलवंशस्य ॥ (१)

यस्यान्वये जगति भोज महेन्द्रनाग—

शीलापराजित महेन्द्रजायतैकवीरः ।

जातैर्यथार्क समशोभित कालभोज

[2] + + + + ॥ (२)

+ + + +

+ - + +

खोम्माणमात्मज मवाप स चाथ तस्मा

ल्लोकत्रयैकतिलको जनि भर्तृपट्टः ॥ (३)

सिंघोभवत्तदनु तद्भुतोपि जज्ञे

[2] + + + +

+ + + +

+ + + + ॥ (४)

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[1] The inscription does not seem to have been completed here. Vatasthana is perhaps given here as the original place of the person who built the temple of Nanigsvami, and some further account of his family must have been contained in the lines following, which had been either lost or not transcribed.

[2] On comparing this transcript with that of Mr. Bhandarkar, it appears that these verses were wanting, when Colonel Tod had translated it.

राष्टकूटकुलोद्भूता महालक्ष्मीरिति प्रिया ।
अभूद्यस्याभवत्तस्यां तनयः श्रीमदाल्लटः ॥ (५)
स भूपति या यस्य ह्रग ज्ञोणोश्रवंशजा
हरियदेवी यशो यस्या भाति हर्षपुरस्सरं ॥ (६)
अविकल कलाधारोधीरः स्फुरद्दूरलसत्करो
विजय वसतिः ज्ञत्रज्ञेत्रं ज्ञताहति संहतिः ।
समजनि जना -|- + [1] प्रताप तरुद्भूतो
विभव भवनं विद्यावेदी नृपो नरवाहनः ॥ (७)
चाहुमानान्वयो श्री जेजयन्नृपात्मजा
[1] + + + + ॥ (८)
राजा जयति शालिवाहनः इति ख्यात प्रतापस्ततः
[1] + + + +
ततः शक्तिकुमारो भूत्सुतः शक्ति त्रयोजितः
भर्त्रपट्टाभिधा श्रीश्व प्राप राष्ट्र मशापयत् ॥ (१०)
श्रीमदाटपुर + युतालयं यस्य वास इति संपदां पद
यत्र संति नृपपुंगवाः समं कल्पपादपपदात गामिनः ॥ (११)
ख्यातं कनकादिकंदरगृहो दोर्ण प्रतापं दिवि
ख्यातं नैक वणिग्वि शाल विभवो भूताभिशोभं शुभं ।
दोषो यत्र परं विशाल नयन स्त्रीवारलोले दृगौः
भत्यादृष्टिमनानि निर्धकलनां नीयत्र स्वच्छं नराः
श्रीवटस्थाने समावासः पुरमास्तेय सपदां ।
यद्यथा चिंतितं यच पुंसा भागे + + + ॥ (१३)

[1] The readings, it appears, are wanting at these places.

D.

Genealogy of the Vallabhi Dynasty.

1. Bhattarka Senapati.
A.D. 509=G. 190 ?

2. Dharasen I. 3. Dhronasimha. 4. Dhruvasen I. A.D. 526=G. 207. 5. Dharapatta

6. Guhasen A.D. 559, 565, 567=G. 240, 246, 248.
7. Dharasen II. A.D. 571, 588, 589=G. 252, 268, 270.

8. Siladitya (Dharmaditya) A.D. 605, 609=G. 286, 290.

9. Kharagrah I.

Derabhatta.

10. Dharasen III. 11. Dhruvasen II. (Baladitya) A.D. 629=G. 310.

Siladitya II. 14. Kharagrah II. A.D. 656=G. 337. 13. Dhruvasen III. A.D. 651=G. 332. 12. Dharasen IV. A.D. 645, 649=G. 326, 330.

15. Siladitya III. A.D. 671=352.
16. Siladitya IV. A.D. 691, 698=G. 372, 379.
17. Siladitya V. A.D. 722=G. 403.
18. Siladitya VI. A.D. 766=G. 441.
19. Siladitya VII. A.D. 766=G. 447.

E.

Comparative List of earlier Chiefs of Mewar.

Serial No.	Ranpur Inscription, dated v.s. 1496= A.D. 1439 I.	Achalgadh Inscription, dated v.s. 1342= A.D. 1285. II.	Chitorgadh Inscription, dated v.s. 1331=A.D. 1274. III.	Atápura Inscription, dated v.s. 1034=A.D. 977. IV.
	Bappa ..	Bappa ..	Bappa ..	
1	Guhila ..	Guhila ..	Guhila ..	Guhadatta.
2	Bhoja ..	Bhoja ..	Bhoja ..	Bhoja.
3	....	....	....	Mahendra I.
4	....	....	....	Naga.
5	Sila ..	Sila ..	Sila ..	Sila (v.s. 703)
6	....	....	....	Aparajita
7	....	....	....	Mahendra II.
8	Kalabhoja ..	Kalabhoja ..	Kalabhoja ..	Kalabhoja.
9	....	....	....	Khommana I. alias Bappa, abdicated his throne in v.s. 810.
10	....	....	Mallata ..	Mattata.
11	Bhartribhata	Bhartribhata	Bhartribhata	Bhartripatta I
12	Simha ..	Simha ..	Simha ..	Simha.
13	....	....	....	Khommana II.
14	Mahayaka ..	Mahayaka ..	Mahayaka ..	Mahayak.
15	Khommana ..	Khommana ..	Khommana ..	Khommana III.
16	....	....	....	Bhartripatta II. Married Mahalakshimi of the Rashtrakuta family.
17	Allata ..	Allata ..	Allata ..	Allata, v.s. 1008, 1010.
18	Naravahana ..	Naravahana ..	Naravahana ..	Naravahana v.s. 1028. His queen was the daughter of the Chuhumana, King Jajaya.
19	....	....	....	Salivahana.
20	Sakti Kumara	Sakti Kumar	Saktikumara	Sakti Kumara, v.s 1034.

7. Allylammonium Nitrite.

By Prafulla Chandra Rây and Rasik Lal Datta.

In continuation of the researches on the nitrites of the alkylammonium series, several of which, e.g., methylammonium nitrite (Rây and Rakshit, Journ. Asiatic Soc., 1911, vii, 91; Trans. Chem. Soc., 1911, xcix, 1016); ethylammonium nitrite, dimethylammonium nitrite, trimethylammonium nitrite (Rây and Rakshit, Trans. Chem. Soc., 1911, xcix, 1470); benzylammonium nitrite and dibenzylammonium nitrite (Rây and Datta, Trans. Chem. Soc., 1911, xcix, 1475) have already been described, the preparation and thermal decomposition of allylammonium nitrite was undertaken. The interest of such a compound lies in the fact that it is the first unsaturated amine nitrite isolated up to date.

The preparation of the nitrite was effected by double decomposition between silver nitrite and allylamine hydrochloride, the end point being carefully hit off; and the clear solution was left to evaporate in a vacuum over sulphuric acid. Considerable difficulty was experienced in obtaining pure allylamine, since the general method available for the preparation of most amines, namely, by the action of alcoholic ammonia on alkyl halides, is here unsatisfactory. By the interaction of allylbromide and alcoholic ammonia, the quaternary compound is the sole product (Grosheintz, Bl., 31, 390) [cf. tetramethylammonium iodide from methyl iodide and alcoholic ammonia]. With aqueous ammonia, the reaction does indeed take place, but very slowly, requiring days; and yet then it is the quaternary compound that is produced. The base was, therefore, prepared by a special process. This consisted in the hydrolysis of allyl isothiocyanate by concentrated sulphuric acid (Hofmann, Ber. 1, 1868, 182; Rinne, Annalen, 168, 262). Equal volumes of allyl mustard oil and concentrated sulphuric acid were mixed; at first there was no visible reaction; but soon the contents of the flask became warm, and led to a violent reaction. It is well to cool the flask at this point to secure a slow but complete hydrolysis. The mixture was saturated with alkali, distilled, and the vapours led into hydrochloric acid solution. The solution was evaporated to dryness on the water bath; and the residue of crude allylamine hydrochloride thus obtained (admixed with ammonium chloride) was further distilled with solid caustic soda, whereupon pure allylamine came over. After dehydrating it with fresh lumps of solid caustic soda, it distilled between 57-58°. The purity of the amine was further controlled by analysing the double platinic chloride—

·0528 gave ·0196 Pt: Pt. = 37·12, Calc. = 37·21.

Properties: Allylamine nitrite is a thick brownish liquid having the characteristic smell of all alkylamine nitrites.

Results of analysis:

·2077 gave ·2652 CO_2 and ·1710 H_2O; C = 34·82; H = 8·94.

·1700 gave 45 c.c. of moist N_2 at 760 m.m. and 29°; N = 27·65. Calc. for $C_3H_5NH_3NO_2$, C = 34·62, H = 7·69, N = 27·00.

The nitrogen as estimated by the Crum Frankland method is 10·97 as against 13·16 by the urea method, that required by theory being 13·50. This low yield of nitrogen by the action of strong sulphuric acid is a matter requiring further elucidation. It is probable that some nitric oxide liberated by the reaction is fixed by the non-saturated allyl radical.

We are at present engaged in studying the decomposition of allylammonium nitrite under heat and also the interaction between free allylamine and mercuric nitrite.

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8. On Isomeric Allyl Amines.

By Prafulla Chandra Rây and Rasik Lal Datta.

(Preliminary Communication.)

It is well known that when allyl mustard oil is hydrolysed by suitable agents it breaks up into allylamine and other products, the latter varying slightly according to the nature of the hydrolytic agents.

Hofmann (Ber. 1867, 1, 182) used sulphuric acid for this purpose, and the hydrolysis is effected by that means almost immediately, but the yield is not generally satisfactory.

Later on, Gabriel and Eschenbach (Ber. 1897, 30, 1125), working on it found that the yield can be much improved by the use of 20% hydrochloric acid as the hydrolytic agent; but in this case to effect the hydrolyis, it is necessary to boil the mixture in a reflux apparatus for five hours.

Recently, we had occasion to prepare allylamine in quantity for the purpose of its conversion into its nitrite (Journ. Asiatic Soc.). We first prepared it by the hydrolysis of mustard oil with sulphuric acid and the amine obtained was found to boil between 57—58°, as noticed by Hofmann and confirmed by Rinne (Annalen, 168, 262). Subsequently, with a view to improve the yield, we adopted the method of Gabriel and Eschenbach, viz., hydrolysis with 20% hydrocbloric acid, and the resulting amine was found to boil for the most part at 53—54°, although the tail fraction which was only very small boiled at 57—58° and above.

But Gabriel and Eschenbach when describing the boiling point of the amine obtained by their method, remarked that it boiled between 55—58°. It seems that they neglected the greater portion of the amine which passes over at the constant B.p between 53—54°.

Hitherto only two isomeric allylamines have been described, viz., n-allylamine and iso-allylamine, and chain isomerism indicates the possibility of a third amine and this gap in the series appears to be filled up by the allylamine described in this paper.

Two distinct contradictory statements based upon different observations are found in the standard reference books, e.g. (Beilstein, Handbuch der Organischen Chem., vol. I). It has evidently escaped the notice of the chemists who have investigated upon the subject that these are really two different bodies with different boiling points. The isomerism might be traced to the isomerism in the mustard-oil used, or to the effect of different hydrolytic agents, viz., sulphuric and hydrochloric acids. This point is still under investigation, and we hope to throw more light on this matter and to establish the identity of the two amines.

9. Preliminary Note on Sodiumdiacetamide, $\begin{matrix}CH_3.CO\\CH_3.CO\end{matrix}>N.Na.$

By Jitendra Nath Rakshit.

Although the preparation of metallic derivatives of the acid amides has now and then been attempted, the isolation of these has only been effected in a few cases. Curtius (Ber. 1891, 23, 3037) isolated several sodium derivatives of the amides of aromatic acids. He tried the action of metallic sodium directly on acetamide and obtained ammonia as an evolved gas; but he failed to isolate the sodium derivative of diacetamide, the formation of which he mentions as doubtful. Diacetamide was prepared later by Carl Blacher (Ber., 1895, 28, 432) by the action of alcoholic solution of sodium ethoxide on the crude sodium derivative suspected by Curtius. Thus he indirectly proved the existence of sodium diacetamide although the compound has not been isolated up to this time.

Method of Preparation.—Acetamide (purified by recrystallization from benzene), anhydrous thiophene-free benzene, and freshly-cut metallic sodium were boiled under a reflux condenser for 20 to 30 minutes, when copious white flaky crystals began to separate. If unconverted acetamide remains in excess it is generally found in the form of a solid crust adhering to the bottom of the flask; the crystals of sodium diacetamide which settle on the crust can be easily poured out with the benzene and filtered with the aid of the pump. The trace of acetamide that still adheres to these crystals may be got rid of by treatment with boiling benzene and vigorous shaking. The crystals are then again filtered and left in a vacuum desiccator over sulphuric acid for 24 hours. Analysis has proved the substance to be sodium diacetamide $NaN(CO.CH_3)_2$. 0·2602 grm. substance gave 0·1483 Na_2SO_4: p. c. of Na found = 18·45; that caculated from the theory being 18·69.

I am at present engaged in preparing other derivatives of like nature and studying the action on them of alkyl and acyl halides.

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10. Piperazinium Nitrite.

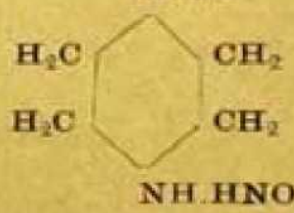
By Prafulla Chandra Rây and Jitendra Nath Rakshit.

(Preliminary Communication.)

In continuation of our previous researches on the nitrites of the alkylammonium bases (Trans. Chem. Soc., 1911, 99, 1470), we recently treated piperazinium hydrochloride with silver nitrite in aqueous solution. The filtrate on evaporation in a vacuum over sulphuric acid gave beautiful glistening, pale yellow crystals. Different preparations gave salts of varying compositions. A systematic investigation leads to the conclusion that if successive crops are collected at intervals of twenty-four hours or so, two or more distinct compounds of definite composition can be obtained. The first crop, the most sparingly soluble, is evidently dinitroso piperazine. (Calc. N = 38·89; Found = 39·07). It does not respond to the "urea" test and it is non-ionisable. The second crop, which is easily freed from admixture with the fractions of the first crop by dissolving it out with the minimum quantity of water and recrystallising, is suspected to be "nitroso nitrite" piperazine. Urea with dilute sulphuric acid liberates only half the nitrogen as does also potassium iodide solution acidified with dilute sulphuric acid, proving that in this compound there is only one (NO_2) radical; it is also ionised at a dilution of 96 litres to the extent of 46 per cent. The results of combustion analyses are given below:—

0·0736 grm. gave 0·0837CO_2 and ·0472 H_2O
0·052 ,, ,, 16·4 c.c N_2 (moist) at 25·8 and 763 mm.

Whence C = 31·02; H = 7·13 and N = 35·11 theory requires—
C = 29·63; H = 6·17; N = 34·57

The formula  is provisionally assigned to

this compound, and it bids fair to be a most remarkable member of the series, inasmuch as it is at once a nitroso-body as well as a nitrite.

Further investigation is proceeding.

11. Padre Marco della Tomba and the Aśoka pillars near Bettiah.

By Rev. H. Hosten, S.J.

The earliest recorded allusion to two of the Aśoka pillars in the neighbourhood of Bettiah has never been quoted, I believe, in our Archæological Reports. It occurs in the writings of Padre Marco della Tomba, a Capuchin Missionary long resident in Bettiah.[1] He arrived in India in 1758, and was posted the same year to Bettiah where he resided with little interruption between 1758 and 1769.

In his frequent journeys to and fro between Bettiah and Patna he had to pass near the lion-capped pillar of Bakhrā and the pillar of Lauriya-Arārāj, while his attempted journey to Khatmandu (1762), where there was a Capuchin Mission, brought him near the lion-crowned pillar of Lauriya-Navandgaṛh, and possibly near the two pillars at Rampurvā.

Padre Marco writes in his *Descrizione dell' India Orientale*, pp. 39—40 :—

"Though many of our historians deny it, it is quite true that Alexander the Great conquered the same Indostan in the year 3675. Leaving alone the reasons which other historians adduce, I shall say about this only that I saw myself in this Kingdom of Bettia two columns raised in two different provinces, one to the east, the other to the south of the same city of Bettia, and fashioned apparently by the same artist. Not counting their length under the ground, they stand 27 cubits high up to the capital, on the top of which there is a lion, which looks very natural. The circumference of the column is 7 cubits, as I myself measured. The column seems to consist of a single stone. I struck it several times with a hatchet, and fired some bullets (*diedi alcuni colpi di cetta* [accetta] *e tiri di palla*) without being able to make out that it was otherwise. Those two columns are as if covered with a certain writing, which I traced (*che io riportai*) on paper,[2] and then sent to the Hindu Academy of Benares and to some Tibetan scholars (*ed a certi lumi del Tibet*)[3]; but not one of them

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[1] *Gli scritti del Padre Marco della Tomba..raccolti, ordinati ed illustrati....*da Angelo de Gubernatis ....Firenze, 1878.—This work deserves to be more widely known in India than it is.

[2] Did he take an impression or estampage ?

[3] Probably some of the Capuchin Fathers conversant with Tibetan, for the Capuchin Mission in Tibet had come to an end in 1745.

could read or understand a word of them. As for the people of the country, they can give no explanation of them. These characters appear to be some ancient Greek, while some of them resemble much those of the alphabet of the said nation.[1] At the end of the inscription there is a line in the Arabic character and language which says: 'This column has been erected by N.—the name cannot be made out—Vigir[2] of Alexander the Great.' I do not, however, assert that the Arabic characters were engraved by the same artist. The characters of the two inscriptions are the same; the words alone differ, and one is fuller than the other. The line in Arabic is on the column to the east, which is erected in some deserts, where appear still some relics of a fortress. The educated inhabitants affirm that the pillars were erected by Alexander the Great, who is known in these parts under the name of *Mahasicander*.''[3]

Father Marco's other proofs of Alexander's connection with India are here irrelevant.

One of the two pillars mentioned is easily identified with the lion-capped pillar of Lauriya-Navandgarh. (Cf. *Archæol. Surv. Rep.* (1861-62), Vol. I, p. 68 *sqq.*; XVI, p. 167 *sqq.*) It is the only one, of the five now known to exist near Bettiah, which has been found to bear a Persian inscription. The inscription, however, proves how badly Father Marco allowed his prejudice in favour of Alexander and his native interpreters to deceive him. It bears in beautifully cut Persian characters the name of "*Mahi-ud-dīn Muḥammad Aurangzib Pādshāh Alamgir Ghāzi Sanh*, 1071," the date corresponding with A.D. 1660-61.

The shaft of the pillar, wrote Cunningham, "is formed of a single block of polished sand-stone, 32 feet 9½ inches in height, with a diameter at base of 35·5 inches and of 26·2 inches at top. The capital, which is 6 feet 10 inches in height, is bell-shaped, with a circular abacus supporting the statue of a lion facing the north.[4] The abacus is ornamented with a row of Brahmani geese pecking their food. The column has a light and elegant appearance, and is altogether a much more pleasant monument than the stouter and shorter pillar of Bakhra. The lion has been injured in the mouth, and the column itself bears the round mark of a cannon-shot just below the capital, which has itself been slightly dislodged by the shock."[5]

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[1] I understand Father Marco to mean that some of the characters looked like ancient Greek; others more like modern Greek.

[2] *Wazīr*=minister.

[3] "The pillar [at Navandgarh] is generally known in the vicinity as Bhim-Māri-kā-lāt." Cf. *Arch. Surv. Rep.*, XVI. p. 108. That of Bakhrā is called *Bhīm-Sen-kā-lāt* or *Bhīm-Sen-kā-danda*. *Cf. ibid.* I, p. 61.

[4] Corrected to "east" in *A. S. R.*, XVI, p. 107.

[5] Cf. *A. S. R.*, I, pp. 72—73, and for an illustration of the pillar, Vol. I, plates XXII, XXV, and Vol. XVI, plate XXVII.

In Cunningham's time the people ascribed the outrage to the Musalmāns. But, have we not here Father Marco making a clean breast of the whole matter? During his journey from Bettiah to Nepal in October 1762, he joined a number of Christian soldiers from Bengal—Topazes or Portuguese half-caste gunners apparently—then on their way to join the forces of "Casmalican," the Nawab of Patna, and make an attack on Nepal.[1] Lauriya-Navandgaṛh is on the direct route from Bettiah to Nepal. It is not impossible then that Padre Marco should have allowed his curiosity to get the better of his otherwise enlightened interest in matters archæological, and that he should have had a mortar fired below the capital to see whether it was of a piece with the rest. Our archæologists now would lynch a man for such vandalism. But, let them not be too hard on Padre Marco! The marvellous ingenuity of his confession clearly proves that he meant no harm, and little harm was done after all. Would that some of our archæologists had not sinned more grievously in the interests of science.

There are two objections against our identification :—

1. The pillar is said by Marco to be to the east of Bettiah, whereas the Lauriya-Navandgaṛh pillar is to the north-north-west of it.[2] Marco's orientation must be at fault; for no pillars are now known to the east of Bettiah. The Rampurvā pillars are 32 miles due north of Bettiah in direct lines.

2. The Lauriya-Navandgaṛh pillar as measured by Cunningham stands 32 feet 9½ inches high between the ground and the capital, the total height including the lion being rather more than 39½ feet.[3] Now, taking the cubit to be equal to 18 inches, we obtain, according to Father Marco's measurements, 40 feet 6 inches up to the capital, a considerable difference. It is not impossible that the pillar should have sunk a few feet in a century; but, how did Father Marco determine the *height*? By actual measurements or at sight? Besides, let us bear in mind that the cubit is an unsatisfactory unit to work upon, and that the same measurements are given for both pillars observed, which is suspicious. The circumference at the base, according to Cunningham, is 9 feet 3 inches; according to Marco della Tomba, it was 10 feet 6 inches. Does the difference imply again that the pillar has sunk, or must we explain it by the indefiniteness of the cubit as a measure?

These difficulties notwithstanding, we believe the identi-

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[1] Cf. A. de Gubernatis, *Gli scritti del P. M. della Tomba*, p. 17.

[2] Cf. *A. S. R.*, XVI, p. 104, and plate I.

[3] de Gubernatis is mistaken when he writes that the pillar *with* the capital is, according to Cunningham, 32 feet high (*Scritti*, p. xxxvii). Cf. CUNNINGHAM, *Corp. Inscript. Indic.*, I, p. 41.

fication can leave no doubt.[1] The relics of a fortress in the neighbourhood, to which Marco alludes, are those "of a very remarkable deserted fort which stands just half a mile to the south-west of Lauriya."[2] Some points to be discussed in connection with the second pillar will prove further the correctness of our argument.

The second pillar mentioned by Father Marco must be that of Lauriya-Arārāj. It cannot be the lion-pillar recently dug up at Rampurvā, for in that case both pillars seen by Marco would be to the north of Bettiah and in the same province of Champaran. It cannot be the lion-pillar of Bakhrā, which has no inscription. Hence, the only pillar now known with which to compare Marco's description is that of Lauriya-Arārāj. This contains six of Aśoka's edicts, like the pillar at Lauriya-Navandgaṛh, and its inscription, as noted by Marco, is less lengthy than at Navandgaṛh. At Lauriya-Arārāj the south face contains 23 lines (edicts i—iv), the north face 18 lines (edicts v-vi); at Navandgaṛh, the inscription contains on one side 27 lines (edicts i—iv), on the other 21 (edicts v-vi).[3] The Rampurvā northern pillar contains an inscription in two columns, one facing the south, the other the north. The northern portion consists of 20 lines (edicts i—iv), the southern of 14½ lines (edicts v-vi).[4] The inscriptions in all three places correspond almost letter for letter.

The Arārāj pillar is a single block of polished sand-stone 36½ feet in height above the ground, with a base diameter of 41·8 inches (circumference 10′ 11″) and a top diameter of 37·6 inches.[5] Compare this with Marco's measurements: 40½ feet up to the capital, and circumference (at base ?) 10 feet 6 inches. The pillar, when seen by Cunningham during his tour of 1861-62, had no capital, "although there can be little, if any, doubt that it must once have been crowned with a statue of some animal. The people, however, know nothing of it, and not a fragment of any kind now exists to suggest what it may have been."[6] We learn then from Father Marco della Tomba that it bore a lion as at Bakhrā and Lauriya-Narvandgaṛh and like the northern column of Rampurvā. The lion must have disappeared since 1769. We surmise that the capital and the lion may now lie embedded several feet under ground, as was the case at Rampurvā. Whether it fell from the shaft accidentally or was torn off violently, should be determined by the nature of the fracture at the top.

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1 de Gubernatis understood that the two pillars described by Marco stood both at Lauriya-Navandgaṛh. (Cf. *Gli scritti*, p. xxxvii)

2 Cf. *A. S. R.*, I, p. 68.

3 Cf. CUNNINGHAM, *Corpus Inscript. Indic.*, vol. I, pp. 40—41, and plates xxiii—xxvi.

4 Cf. *Archæol. Surv. of India, Annual Report of 1907-08*, p. 185.

5 Cf. *A. S. R.*, I, p. 67. 6 Cf. *Ibid.*

There may be some point in a legend current in the country. During his tour in North and South Behar (1880-81), Mr. Garrick learnt from the people in the village near the Bakhrā pillar the strange story that the lion of Bakhrā originally held in his mouth the stone effigy of a calf, and that a certain *Farang Saheb* (European) fired a shot at it, upon which the calf tumbled to the ground and vanished. As the lion's mouth at Bakhrā is not in any way injured, and, on the contrary, exhibits the protruding tongue as well as the teeth perfectly, Mr. Garrick could not conceive what grounds there was for such a tradition. He thought it "one of the many idle tales so apt to mislead the enquirer by the apparent sincerity with which they are persisted in."[1]

The story would seem to be a reminiscence of the bull-pillar dug up recently at Rampurvā at a distance of 900 feet from a lion-pillar. Considering that no other pillar surmounted by a bull is known in that part of the country, the proximity of the lion to the bull may have given rise to the legend noted by Garrick. It would be interesting to know whether a similar story survives further north than Bakhrā, in particular near Rampurvā. In that case, the overthrow of the Rampurvā pillars would have occurred in much more recent times than has been concluded.[2] The persistence, too, of the tradition about acts of vandalism committed by Europeans or Muḥammadans, and the fact that the pillar of Navandgaṛh bears evident traces of violence, would lead us to conclude that the pillar at Lauriya-Arārāj was tampered with in almost modern times. The great depth to which the Rampurvā pillars had sunk makes it, of course, more difficult to conclude the same in their case.

[1] Cf. *Ibid.*, XVI, pp. 92, 93.
[2] Cf. *Archæol. Surv. of India, Annual Report of 1907-08*, p. 188.

12. **Surgeon Boughton and the Grant of Privileges to the English Traders.**

By Maulavi 'Abdu'l Wali.

In the *Indian Antiquary* for September, 1911 (Vol. XL, pp. 247-57), Mr. W. Foster has discussed, in detail, the story so often repeated by certain English writers, that the English were permitted to trade in Bengal duty-free on account of Surgeon Gabriel Boughton having cured the Mughul Princess Jahānāra. He has quoted from Orme's "History of the Military Transactions of the British Nation in Indostan" (Vol. II, p. 8, published in 1778) and Stewart's "History of Bengal," p. 251, published in 1813. Although Stewart's account is more detailed than that of Orme, it is probable that both used the same authority. The other writers have followed one or other of these two historians. The following, in brief, is the substance of this picturesque story:—

In 1046 H. or 1636 A.D. a daughter of the Emperor Shāh Jahān having been dreadfully burnt by her clothes catching fire, an express was sent to Surat through the recommendation of Asad Khān, the Wazīr, for an European Surgeon. The Council at Surat sent Mr. Gabriel Boughton, Surgeon of the ship *Hopewell*, to the Imperial Camp, at that time in the Dekkan, who cured the Princess of the effects of her accident. Having been directed to name his reward, the English Surgeon did not seek for any private emolument, but solicited that his nation might have liberty to trade free of all duties, and build factories in Bengal. His request was complied with. In the following year Boughton had the good fortune to accelerate the recovery of one of the ladies of the house of Prince Shuja', the Viceroy of Bengal, who was ill with a complaint in her side. It was by the influence of the Prince that Boughton was enabled to carry into effect the orders of the Emperor, which might otherwise have been made nugatory. In 1050 H. or 1640 A.D. the same ship brought out one Mr. Bridgeman and others, who were enabled to build factories through Mr. Boughton's influence with Prince Shuja'.

Mr. Foster has examined the Orme MSS. in the India Office Library, where, among the materials used by the Historian, are two copies of a memorandum dated 1685 from India Office Records, on one of which Orme has prefixed a note that it was "by an uncertain hand." This document,

which is still among the India Office Records in what is now Factory Records, Fort St. George, is again a copy, but nothing is known of its original. This quaint but long document is quoted *in extenso* by Mr. Foster. It gives an account of Boughton's doings both in the courts of Shāh Jahān and Shah Shuja' in greater detail than given by Orme and Stewart. It also contains some other accounts not connected with the subject matter of this paper. So far as Boughton legend is concerned, Mr. Foster is of opinion that the writer probably depended on hearsay, and in certain details his information was inaccurate. The opening date (1636) cannot be correct, as the *Hopewell* sailed from the Downs on the last day of 1641 and reached Fort St. George on the 15th July 1642. In the home records of the Company nowhere is the name of the Surgeon given. The *Hopewell* being unable to complete her voyage to Europe returned in September 1644 to Surat, but no trace can be found of Boughton's participation in the voyage. The memorandum also gives instances that certain officers of the Nawab interpreted the farman differently.

Mr. Foster then gives another extract from a letter by the President and Council at Surat dated January 3rd, 1645, to the East India Company which gives, as appears to Mr. Foster, the true story of Boughton's deputation to Āgra. There it is stated that one Gabriel Boughton, late chirurgeon of the *Hopewell*, was nominated by the Council to go to Āgra as Asālat Khāṇ *had long importuned us to supply him with* (*a*) *chirurgeon*. Nothing is here said about the fire-incident; on the contrary Aṣālat Khāṇ (not Asad Khāṇ) had been importunate for an English doctor, doubtless to attend his own infirmities. Moreover the fire-incident occurred nearly a year before Boughton was despatched. Mr. Foster, therefore, concludes that the story of Boughton's curing the Princess Jahānāra is inaccurate. Other extracts (again based on hearsay) have been given, which do not clear the point. Perhaps the trade concession granted by Shāh Shuja' was true. But it is not clear whether the concession granted by the Prince was to the Company or, as it appears more likely, to Boughton himself. At the conclusion of his paper Mr. Foster has drawn attention to a report made to the Court on September 4th, 1674, by a committee specially appointed to investigate the question of trade in Bengal. This report is again based generally on hearsay. The following is the substance of the report:—

We find that a farman or patent for trade granted to the English by the Prince of Bangala was first procured by one Mr. Bowden, which give the English only a liberty to trade, paying custom according to King's farman, but was altered and made to pay no custom according to King's farman.

Another suspicious thing appears to be that Surgeon Boughton was introduced to Shāh Shuja' by a great person

that had seen him at the Emperor's Court, while he was performing cure upon the Emperor's daughter. At this great person's advice Boughton undertook the cure of the lady of the Prince's *haram*. What this great person said to the Prince was apparently an untruth which he was made to say by Boughton, since he never cured the Princess Jahānāra as it will appear from the sequence. This untruth was on a par with the alteration of the patent noted above.

It is interesting, in this connection, to turn to the chronicles of the reign of Shah Jahan and the fire-incident as narrated therein. In his "Padshahnāma" (Vol. II, Bibliotheca Indica edition, pp. 363-66, 393-400 and 407ff) 'Abdu'l-Ḥamīd Lāhori gives a detailed account of the incident. The translation of the following abstract is given to assist writers to determine the accuracy of the Boughton legend.

On the night of the 27th Muḥarram 1054 H., in the 17th year of the reign of the Emperor Shāh Jahān, as Princess Jahānārā Bēgam, otherwise called Bēgam Ṣāḥib, the best beloved daughter of the Emperor, was going to her sleeping apartment after she had made obeisance to her father, the edge of the lower part of Her Highness's garment came, accidentally, in contact with the candle that was burning there. As her dress was of the finest stuff and of delicate fibre and was, in addition, smeared with fragant oils, especially otto of roses called '*itr-i-Jahāngīrī*, the fire at once spread up to all her apparel. Four of Her Highness's attendants, who were present, rendered what help they could in extinguishing the fire. But in so doing their own clothes too caught fire; consequently they could do very little. By the time other servants were informed and water procured, Her Highness's back, both sides of her body and hands were dreadfully burnt and lacerated. Owing to this calamity His Majesty the Emperor did not come out on the following day. On the next day the Emperor went to the private and public halls but did not stay more than a *ghari*.

His Majesty, who was very much upset, did not lose the equilibrium of his mind, or reliance on God. The treatment that was resorted to was at once spiritual (ruḥānī) and corporal (jismānī). Of the former, His Majesty sought the prayers of the faithful and the holy, and of those who had retired from the world. From the first to the fifth day of this dire calamity, again on the 22nd Safar, which was Her Imperial Highness's birthday, and also till her complete recovery, money was distributed to the poor, the needy and the distressed, most lavishly. Persons who had been in jail for a long time on account of various crimes were set at their liberty, pardoned, and given seven lakhs of rupees.

Over and above these instances of Imperial clemency and favour, the Madad-i-M'āsh tenures were restored to their legitimate owners throughout the Indian Empire. Some time ago

Sayad Jalāl, the Ṣadr'us-Ṣudūr, had reported that Musavi Khān had granted to several unworthy persons Madad-i-M'āsh and Waẓifa (tenures) without His Majesty's knowledge and on fictitious Sanads. On that it was decided that the produce of one season of those lands, whether under the Crown or private landlords (with the exception of suyūrghāls of those holders well known to Government), should be stored in a third place, till the rights and titles thereof were inquired into. As a consequence, occupiers of those free-holds had become disturbed and distressed. In order to mitigate distress, fresh orders were now promulgated to the effect that the hitherto confiscated produce should be restored to their present owners, and thenceforth stored as before till the completion of the enquiry by the head-quarters Ṣadr and Provincial Governors and Ṣadrs.

A detailed description of the corporal (i.e. medical) treatment which was undertaken for Her Imperial Highness has been given. All the skilful physicians and surgeons of the realm—those that were either at the capital in the service of His Majesty, or those that had been there from other parts of the Empire—did their best by the treatment of the august patient to cure the effects of the accident. The severity of the accident may be guaged from the fact that two of her servants died of the effects of the burn—one after seven, and the other after twenty, days; but the other two recovered. For a period of four months, there was very little hope of Her Highness's recovery, and His Majesty passed the time in sorrow and suspense, and appeared at the *Jharōka* of the Audience Halls late and for a very short time.

Ḥakīm Muḥammad Dā'ūd, physician to the late Shāh 'Abbās of Persia, arrived at court on the 20th day of the calamity and began to treat the Princess. During the above four months various bad symptoms appeared. The Hakim prescribed some of the most successful remedies for their cure: for fever, both continued and intermittent, were prescribed soothing drugs of the nature of camphor and acids; for weakness of heart, *māu'l-laḥm*. On a sudden, lassitude and prostration of body and flow (?) of blood (hemorrhage) set in, which gave rise to great trepidation in the mind of His Majesty. The Ḥakīm, however, was of opinion that it was not proper to stop the flow of blood at that stage as it might lead to further disorders, but that they would be treated by and by. Ḥakīm Mominā, another physician, was, however, of different opinion. His Majesty, on account of the sensation of uneasiness and fatigue of the patient, permitted him to try his remedies. He proceeded to treat Her Highness cautiously and at last prescribed *Zira*. Suddenly owing to the stoppage of the *mādda-i-suwal-qunia* and the appearance of swellings round her eyes, and on feet, His Majesty became more than ever anxious. The treatment of these further symptoms was again en-

trusted to Ḥakim Muḥammad Dā'ūd, who treated them with the aqua of green kāsnī (endive), mājūn atarji, m'ājūn Qam ha, and the disease gradually declined. When the disease was almost cured, Ḥakīm Masiḥuzzamān was summoned from Lāhōr. He, in consultation with Ḥakim Muhammad Dā'ūd, added m'ajūn wardī, and the recovery fully set in. It was to Ḥakīm Muḥammad Dā'ūd that the credit of the successful treatment was due.

Although all other disorders were cured, yet for five months more, in spite of applications of various ointments, the ulcer caused by the burn was not healed. It was healed at last by an ointment given by one of His Majesty's servants, named 'Ārif, which was used for two months.

The happy Jashn or feast held on Her Imperial Highness's recovery was observed in Shawwāl. Her Highness bathed on her recovery at the end of Ramazān and the Jashn came off on the 5th Shawwāl (5th December), on which date the Begam Ṣāḥib came out of her rooms to make her obeisance to her father, the Emperor. The *Jashn* lasted eight days, a vivid description of which is given. In the course of those days costly presents were given to the above-mentioned physicians, and His Majesty's servant 'Ārif. Titles, rank and other rewards were showered on high and low. Musicians and poets, one of the latter being Ḥājī Muḥammad Jān Qudsī of Mashhad, were paid handsomely. Again on the 24th Ḍi'l-Q'ada of the same year, Her Highness the Begam Ṣaḥib herself bore all the expenses of another *Jashn*, when all classes were entertained and rewarded.

His Majesty became now desirous of visiting the sepulchre of Khwāja Mu'īn'uddīn Chishtī at Ājmēr as a thanksgiving for the recovery of his daughter, and started for that purpose from Āgra on the 26th Ḍi'l-Q'ada. The overland journey proving too fatiguing for the Princess, and the ulceration having consequently re-appeared, the visit to Ājmēr was put off; and the journey was next resumed on boat towards Lāhōr by the river Jamna On the 10th Ḍu'l-Hijja Muḥammad 'Alī, Faujdār of Sarkār Ḥiṣār, brought to His Majesty's notice that there was a poor faqīr, named Hāmūṇ, who had a very efficacious ointment. The man was sent for, and the remedy applied to the sores, proved most efficacious. After twenty-two days Her Highness's recovery was complete, while the court was in the jurisdiction of Dehli territory.

The Historian (p. 409) says: Although noted Surgeons—Musalmāns, Firingīs (Europeans), and Hindus—who were specialists on this branch of the subject, tried their best to prepare various ointments, but they did not produce the slightest effect. But the luck of Hāmūṇ and of 'Ārif, who were quite unknown persons, was such that only did their ointment prove efficacious.

Conclusion.

The Emperor Shāh Jahān was at Dār'u-l-Khelāfat-i-Ākbarābād (Agra), as is evident from the Pādshahnāmah, from the 19th Muharram 1054 H., equivalent to 28th March 1644 A.D., to 26th Di'l-Q'āda or 24th January 1645. The fire-incident occurred on the night of the 27th Muharram (night between 27th and 28th) or 5th April 1644. The Imperial Princess was cured after nine months, and the ceremony of ghusl-i-shifā (bath of recovery) was celebrated in Shawwāl or December.

The real treatment of the Princess was undertaken by Ḥakīm Muḥammad Dā'ūd associated on the eve of her recovery with Ḥakim Masīḥuzzamān. At the end of the four months the Princess was almost cured and the grave symptoms removed; only the sores of the burn remained for a further period of five months. Various ointments were externally applied, ineffectually; the only medicine that healed the sores was the ointment that was given by a quack, 'Ārif, one of His Majesty's retainers. In Di'l-Hijja or February 1645, when the sore reappeared on Her Highness's way to Ājmēr, it was finally cured by another quack, a mendicant from Ḥiṣār, named Hāmūn. This indisputable testimony of the Court chronicler clearly shows that not only did His Majesty seek the prayer of the pious but also the medical skill and surgical experience of those that were at or near Āgra. It is also stated that between the 5th and 9th months many persons, including Europeans and Hindus, tried their surgical skill for the treatment of the sores, but all unsuccessfully. Was Boughton one of them? Mr. Foster (p. 255, I.A.) writes that "it has been pointed out by Yule and others that the fire accident occurred early in 1644—nearly a year before Boughton was despatched; while in any case as the court was then at Dehli, it would have been impossible to procure a European surgeon from Surat in time to be of any real service." I may add, that it is not known when Boughton started from Surat for Agra, but he must have left the former place some time before the 3rd January 1645 and arrived at Āgra towards the end of February, about the time the Emperor had left on tour. If such be the case, it precludes Boughton from taking any part in showing what surgical skill he possessed, as the Princess was restored to health on or before the end of Ramazān 1054 H., or November 1644, long before she accompanied the Emperor on his intended journey to Ājmēr. The court historian chronicles the incidents of almost every day of any importance, including the rewards bestowed on various individuals in this historic treatment. But nowhere do I find any mention of Surgeon Boughton, who (it is said) not only treated the Princess but, as a reward, was given such extraordinary commercial concessions that hardly any one could believe. The conclusion that one can arrive at is that

Boughton did not cure the Imperial Princess of the effect of the fire; that he did not treat her at all; that he had not been at Āgra when the Princess was still afflicted with the sores; and that he got no sanad or patent for curing the Imperial Princess.

NOTES.

1. The negative evidence, that although many persons of various nationalities treated the Princess, she was cured only by the native physicians and private persons as noted, proves conclusively that no English Surgeon was so fortunate as to cure the Princess or to get extraordinary concessions.

It appears that the medicines taken internally were all prescribed by skilful Ḥakīms; but only the ointments applied externally for the sores were prescribed by surgeons and laymen of all nationalities.

2. Muḥammad Hāshim Khwāfī Khān, author of the Muntakhabu'l-Lubāb, in his careless way, supports 'Ābdu'l-Ḥamīd Lāhorī, in all details. He adds (Vol. I, B. I. edition) that till the arrival of Ḥakīm Muḥammad Dāū'd, the Princess was treated by Ḥakīm Mominā. Other historians, who all wrote after 'Ābdu'l-Hamīd Lāhorī, have also noted the incident.

3. The last two lines of the Quatrain by poet Qudsī, quoted by Mīr Ghulām 'Alī *Āzād* Bilgrāmī, n the Khazān-i-'Āmira (p. 377, Newal-Kisōr edition, Cawnpore, 1871) were as follows:—

Tā sar-zada ān shamʻ chunīn bē-adabī
Parwāna zē ishq-i-shamʻ wā-sukhta āst

Translation.

Since the candle was guilty of such unmannerliness,
The moth out of the love of the candle burnt itself.

4. It is difficult for a layman like myself to explain definitely the medicines prescribed by the physicians.

Zīra—Cummin seed: anise: *Zira-i-Rūmī*—caraway seed.

Māu'l-laḥm—A kind of decoction prepared of meat juice and other ingredients.

Mʻajūn—This is a medicine prescribed by Yunani physicians, consisting of various costly ingredients made into a kind of gelatinous substance or an electuary, which removes debility and strengthens the human body.

Mādda-i-Suwal-qunia—Matter pertaining to the disease of liver or hepatic disorders.

13. NUMISMATIC SUPPLEMENT No. XVII.

Note.—The numeration of the article below is continued from p. 712 of the "Journal and Proceedings" for 1911.

101. Coins of Gāṅgeya Deva, with plate.

In March 1911, I received for examination 8 coins of Mediæval India which had been found in *mauza* Isurpūr, tahsil Rehli, of Saugor district. The inscriptions on the reverses when pieced together from the eight specimens read "Sri Mad Gāṅgeya Deva" as on the coins depicted in Plate VIII of Cunningham's Coins of Mediæval India. The reverses contained very rudely struck figures of Lakshmī. But the peculiarity of the coins consisted in their fabric. The usual coins of Gāṅgeya Deva are thin and broad. These were thick, and in diameter only a bare half inch. The weight of the coins was normal.

I showed the coins to Dr. Venis, C.I.E., and Mr. R. Burn, C.S. The latter suggests that the coins may be a posthumous issue by Gāṅgeya Deva's son Karma, who was a great conqueror.

Allahābād. H. Nelson Wright.

102. Shamsu-d-dīn Maḥmūd Shāh of Dehli.

In Numismatic Supplements XIV and XV, a reference to which is invited, I noted on a billon coin of Shamsu-d-dīn Maḥmūd Shāh of Dehlī, an ephemeral Sulṭān who is only known by the existence of two coins bearing his name. I remarked that the first coin was published by Mr. C. J. Rodgers in a pamphlet which I had not seen, and that he noted upon it in his book 'Coin Collecting in Northern India' (Pioneer Press, Allahabad). I also wrote that I had not been able to ascertain where that coin was, but surmised that if it was the property of Mr. Rodgers, he probably disposed of it to the British Museum.

I am now in a position to bring together all existing references to this Maḥmūd Shāh. The first coin to be discovered is in the British Museum, but eluded my notice because it is not in the Catalogue of the coins of the Dehlī Sulṭāns. It is described in an Appendix to the British Museum Catalogue of

Indian Coins—'Muhammadan States'—published in 1885. The coin is illustrated, and is similar to my specimen. The date 718 A.H. appears in full, and it is remarked that Maḥmūd Shāh would appear to have been a pretender of Dehlī contemporary with Quṭbu-d-dīn Mubārak Shāh, though his name is apparently not mentioned by the historians.

The coin was published by Mr. Rodgers in a paper 'On a Coin of Shams-ud-Dunyā-wa-ud-Dīn Maḥmūd Shāh,' which appeared in the Journal of the Royal Asiatic Society for 1882. He remarks on the similarity of type of the coin to issues of 'Alāu-d-dīn Muḥammad, Shihābu d-dīn 'Umr, and of Quṭbu-d-dīn Mubārak. It was found, presumably by himself, in a heap containing several of Balban, Ghiyāṣu-d-dīn Tughlaq, Muḥammad Tughlaq, 'Alāu-d-dīn Muḥammad, and one of Nāsiru-d-dīn Khusrū. As this Maḥmūd Shāh is not mentioned in history, the author then goes on to speculate as to the probable circumstances attending the issue of this coin.

Quṭbu-d-dīn Mubārak Shāh reigned from 716 to 720 A.H. In the second year of his reign the Sulṭān got an army together and led it in person to the relief of Deogīr in the Dakhan, which was being besieged by one Harpāl Deo. He left Ghulām Bacha Shāhīn in Dehlī as his deputy, and gave him the title of Wafā Beg. Mubārak Shāh was successful in the expedition, which must have occupied several months. On the way back Asadu-d-dīn, cousin of his father 'Alāu-d-dīn Muḥammad, conspired against him, but was betrayed, and was executed together with his accomplices. The Sulṭān's arrival in Dehlī was signalized by a large number of executions, including that of his viceroy Wafā Beg.

Thus there is evidence of a considerable conspiracy at the capital, and the assumption of royal honours by its figurehead during the absence of the sovereign.

The second coin of Maḥmūd Shāh was found by me in Dehlī twenty-eight years after the discovery of the first. It also was picked out of a heap of two or three hundred similar issues of the Sulṭāns from Balban to Muḥammad Tughlaq, which was particularly rich in the rare coins of Khusrū Shāh. I may remark here that a third specimen has just been discovered at Dehlī, and is in the Cabinet of Mr. Nelson Wright.

LAHORE: R. B. WHITEHEAD.
January, 1912.

103. A COIN OF 'AẒIMU-SH-SHĀN.

Coin No. 903 in the British Museum Catalogue of the coins of the Mughal Emperors, is a silver piece of the usual rupee size exhibiting the following inscriptions :—

Obverse.	*Reverse.*
	مانوس
عظیم دین پرور	میمنت
شـــــــــا	سنه احد جلوس
بفتح و ظفر باد	ضرب
۱۱۲۴	جهانگیر نگر

It purports to be a coin of 'Aẓīm struck in A.H. 1124, the first year of the reign, at Jahāngīrnagar. The Persian couplet is redolent of victory; the third line is missing, but the couplet probably runs something like this:—

سکه زد در جهان بفتح و ظفر
بادشاه عظیـــم دین پرور

The coin has been included without any comment among the issues of Farrukhsiyar, and is apparently still unique. The question arises whether it was struck by prince 'Aẓīm, or on his behalf, under circumstances which would justify his inclusion in the list of those pretenders and claimants of the Mughal line who assumed royal honours by striking coin.

Mr. W. Irvine's paper, 'The Later Mughals,' contains an excellent epitome of their history. It appears that the Emperor Bahādur Shāh was in camp outside Lahore when he died on the 20th Muḥarram, 1124 A.H. (27th February, 1712). The Emperor had scarcely breathed his last when his four sons were ranged against each other in a contest for empire. In 1109 A.H., during the last years of the reign of his grandfather Aurangzeb, 'Aẓīmu-sh-shān, the second son, was appointed governor of Bengal, to which was added Bahār in the year 1114 A.H. The then capital of Bengal was Dhākka (Dacca), re-named Jahāngīrnagar in honour of the Emperor Jahāngīr. 'Aẓīmu-sh-shān did not see his father again until they met at Āgra in 1119 A.H. (1707), just before the battle at Jājau and the defeat of A'ẓam Shāh. During the years of his absence, Jahāndār Shāh, the eldest son, from his inattention to public affairs, lost favour with his father, and spent most of his time in his separate government of Multān. In the earlier years of Bahādur Shāh's stay in the Kābul province, his third son, Rafī'u-sh-shān, was his principal adviser and favourite son. In time he was supplanted by the fourth son Jahān Shāh, who retained his influence at his father's accession and for some time afterwards. But by the end of Bahādur Shah's short reign, the preponderating influence rested with 'Aẓīmu-sh-shān, and this, together with the great wealth he had accumulated in Bengal and afterwards, pointed him out to all men as the probable victor in the coming struggle.

I will not follow the details of this contest between the four brothers, which was fought out on the banks of the Ravi near Lahore. They are fully given in the paper from which I am quoting—see the Journal of the Asiatic Society of Bengal for 1896. Prince 'Aẓīmu-sh-shān, on the death of his father, seized the imperial camp, and was in an incomparably stronger position than his brothers. However, owing to his own ineptitude and futility, he lost everything, was defeated, and in flight from the field of battle, was engulfed, together with his elephant, in a quicksand. The defeat and death of Jahān Shāh, and of Rafī'u-sh-shān, followed in quick succession. All these events happened within five weeks after the death of Bahādur Shāh, and the biers of his three sons were despatched with that of their father to Dehlī for interment. All his rivals having been removed, Jahāndār Shāh proceeded at once to carry out his formal enthronement and proclamation as sovereign of Hindūstān.

Muḥammad Farrukhsiyar, the second son of 'Aẓīmu-sh-shān, was now in his thirty-first year, and had accompanied his father first to Āgra, and thence to Bengal. In the last year of his reign, Aurangzeb recalled his grandson, 'Aẓīmu-sh-shān, from Bengal, giving him orders to leave his eldest son, Muḥammad Karīm, in charge of Bahār, and his second son, Farrukhsiyar, in Bengal. The young prince passed some years at Ḍhākka (Jahāngīrnagar), the capital of the Bengal province; but in the reign of Bahādur Shāh (1707—12), he moved to Murshidābād, and subsequently to Rāj Maḥal (Akbarnagar). 'Aẓīmu-sh-shān, anticipating a struggle for the throne, called on Farrukhsiyar to return to Court, and the latter was on the march and not far from Patna ('Aẓīmābād), when on the 7th Ṣafar 1124 A.H. (15th March, 1712), he heard of Bahādur Shāh's death, and on the 13th (21st March), without waiting for further information, he proclaimed his father's accession, and caused coin to be stamped, and the public prayer or *Khuṭba* to be read in his name. He decided to march no further, but on the 29th Ṣafar (6th April, 1712) he heard of his father's defeat and death. For a little time the prince contemplated suicide, but was in the end incited to try the issue of a contest in the field. Thereupon, while still at Paṭna, he proclaimed his accession to the empire, issuing coin, and causing the *Khuṭba* to be read in his own name. He possessed little following at the time, but the adventure eventually had a favourable issue. Jahāndār Shah was defeated at Āgra on the 13th Ẕū-l-Ḥajj, 1124 A.H. (10th January, 1713), and slain shortly afterwards. Jahāndār Shāh had shown himself absolutely unfitted to rule, and Mr. Irvine remarks that the cause of his fall is likened by Wārid truly enough to the case of the exiled monarch who attributed his ruin to morning slumbering and midnight carousing.

From this account we should expect the coin issued to proclaim 'Aẕīmu-sh-shān's accession, to have been struck at 'Aẕīmābād Paṭna, and the fact of its issue from 'Aẕīm's name place would have been a happy augury. This coin has yet to be found, but we have that struck at Jahāngīrnagar, and it is quite natural to suppose that Farrukhsiyar ordered an issue in 'Aẕīm's name from his old capital. It would be too late entirely to prevent the issue when the news of 'Aẕīm's death arrived.

R. B. WHITEHEAD, I.C.S.

LAHORE:
January, 1912.

104. ISLĀMBANDAR 'URF RĀJAPŪR.

It is now ten years since I obtained an Aurangzēb rupee of the Islāmbandar mint. This rupee bears the ordinary legends, having on the Obverse the چو بدر منیر formula, and on the Reverse the words سنه ... ۴ جلوس میمنت مانوس with ضرب اسلام بندر in the two lowest lines. The Hijrī year is wanting, but the regnal year 4x determines the date of issue as falling between 1108 and 1118 A.H. (1696—1706 A.D.).

The location of Islāmbandar remained for long a puzzling problem, but we have, I think, at last arrived at its solution. In a recent letter from my kind friend Mr. Henry Cousens, M.R.A.S., he writes:—

> "I have an old native map of Bījāpūr City, just "covered with marginal notes in Persian, which I have "had translated. On it are scores of names of muḥallas "and villages of Aurangzeb's time with their revenues. "One of the entries is Islāmbandar *alīas* Rājapūr "(اسلام بندر عرف راجه پور). I had better give you the trans- "lation of this part of the note, which is a long one. It "runs thus:—
>
> ...."The port Khal Batī [Bhatkal ?] seven thousand, the "port Chapūl [Chaul ?] fifteen thousand, the port Sank "ten thousand, the port Gūwa [Goa] thirty-seven "thousand and five hundred, which after a short time "passed again into the possession of Christians, "Islāmbandar *alias* Rājapūr twenty gold dīnārs, port "Sāstī ten thousand, port Khārāpaltan five thousand, "port Harcharī five thousand, port Sātūlī three "thousand and five hundred, the port Muḥammadābād "*alias* Shadhut five thousand, and the port Khabra "five thousand." "

The Rājapūr of this note is to-day the capital of the *ta'alluqa* of the same name in the Ratnāgiri Collectorate. It stands at the head of a tidal creek, 30 miles south-east of Ratnāgiri town and about 15 miles from the sea. Mandelslo bears testimony to the importance of this place in his time (1639). Speaking of Ceitapour (Jaitapur), the haven at the mouth of the creek, he declares: "it is no doubt the best in all "the coast, for, casting anchor behind the island which "shelters it, you need not fear being exposed to any wind," and then adds: "Three Leagues thence lyes the City of "Rasapour, which is one of the chiefest Maratime Cities of "the Kingdom of Cuncam."[1]

Some ninety years later "Captain" Alexander Hamilton could write:—

"There is an excellent Harbour for shipping 8 Leagues "to the southward of Dabul [Dābhol], called Sanguseer "[Sangameshvara]; but the country about being inhabited by "Raparees, it is not frequented: Nor is Rajapore, about "7 Leagues to the southward of Sanguseer, tho' it has the "conveniency of one of the best Harbours in the World."[2]

Here in 1637 Courten's Association settled an English Agency, and here too in 1670 Joseph Deslandes[3] founded a Factory in the interests of the French Company.

Vessels used to sail direct from Rājapūr to Persia and Arabia, and for this reason doubtless that port received the name of Islāmbandar; just as Sūrat had come to be called Bandar Mubārak, 'the blessed port.' Orme tells of Aurangzēb's rebellious son, the Sulṭān Akbar, that he hired at Rājapūr a ship commanded by an Englishman named Bendal, and, as soon as the monsoon was changed in October, embarked on her for Muscat, arriving there safely the following month.[4]

According to the New Edition (1908) of the Imperial Gazetteer of India, Rājapūr "is also peculiar as the only "Ratnāgiri port to which Arab boats still trade direct, though "vessels of any size cannot approach within three miles of the "old stone quay." This statement is significant for its bearing on Rājapūr's quondam name of Islāmbandar.

It is interesting to note that at the period when the Islāmbandar mint was striking rupees in the name of Auranzēb (Cir. A.H. 1112). that monarch was campaigning in the neighbourhood of Rājapūr. In his Muntakhab al lubāb Khāfi Khān gives a detailed account of the expedition in A.H. 1112

[1] Voyages and Travels of J. Albert Mandelslo, rendered into English by John Davies of Kidwelly (1662), p. 92.

[2] A New Account of the East Indies, by Captain Alexander Hamilton (1727), Vol. I, p. 241.

[3] Storia do Mogor, by Niccolao Manucci, translated by Wm. Irvine, Vol. IV, p. 415.

[4] Historical Fragments by Robert Orme (1808), p. 150.

against the fortress of Parnāla, distant twelve miles from Kolhāpur and some twenty from Rājapūr. The aged Emperor had now indeed fallen on evil days. Marching and countermarching his divisions, he took fort after fort, only to lose them again. He successively reduced Sātāra, Parlī, Parnāla, Khelna (Vishālgarh), Kandāna (Singarh), Purandhar, Rājgarh and Torna, all in the district dominated by the Western Ghāts, and, though in the histories no express mention is made of the submission of Rājapūr, we may safely assume that this town too acknowledged, for a time at least, the sway of Aurangzēb.

On the Konkan coast, just over against the island (*jazīra*) of Janjīra, there is another Rājapūr. Can *this* be Islāmbandar? We believe not, and for the following reasons:—

1. This place is generally brought under the double appellation of Dandā Rājapūr, or rather Dandā Rājpūrī, Dandā and Rājpūrī being close together.

2. At the time that Aurangzēb was warring against the Marāthās in the Dakhin, the Habshī ruler of Janjīra and Dandā Rājpūrī was also contending against the same foes. Thus, the Mughal Emperor and the Abyssinian Nawāb having a common enemy, would in all probability stand on terms of friendship each with the other. That about the beginning of the eighteenth century they entered into a conflict in which Aurangzēb proved the victor, with the consequence that his coins issued from a mint in the harbour of the Janjīra State, all this is, so far as I can learn, unsupported by any evidence from history.

3. As a port Dandā Rājpūrī does not seem to have been held in any special account by the Ḥājīs or other Musalmān voyagers across the Arabian Sea; and it thus becomes impossible to justify the application to that port of an epithet conveying such high distinction as Islāmbandar.

GEO. P. TAYLOR.

Aḥmadābād:
1912.

105 A RUPEE STRUCK BY GEORGE THOMAS.

Wt. 169 grs. Size ·85.

Mint: Hānsī Ṣāḥibābād. A. H. 1214: 42.

Obv. الدین محمد صاحب ابادہ مانے

ضرب

جلوس میمنت مانوس

۴۲

۱۲۱۴

سکۂ صاحب

زد ز نائیدہ

Pl.

Ornamented Umbrella above ب on obverse and sun-face in both ص's of reverse. T (almost obliterated) above the صا.

The passage in the *Memoirs* of George Thomas, which states that he established a mint and coined his own rupees, which he made current in his army and country, is well known but no satisfactory attribution of any coin to him has as yet been given The above coin, which is now in the British Museum, is the piece illustrated in Compton's *Military Adventurers of Hindustān*, p. 143, but the description there is, as Mr. Burn has pointed out, erroneous (J.A.S.B. 1904, p. 82). The coin must nevertheless have been struck by Thomas. The obverse inscription really is a small portion of one of Shāh 'Ālam's and not as Cunningham (quoted by Compton) thought a legend referring to Thomas. The date 1214-42 limits the date of issue of this coin to 5th June to 5th October 1799, which is soon after Thomas had firmly established himself in Hānsī. The epithet Ṣāḥibābād was probably chosen by Thomas in allusion to his favourite title of "Sāhīb Bahādur." Keene in his *Hindustān under Free Lances*, p. 88, says that he has seen a rupee of Thomas's bearing the title of the Emperor Shāh 'Ālam in Persian, with a capital T in English character. The T on this specimen is almost obliterated, but possibly this note may produce a better preserved specimen. The only other coins with Shāh 'Ālam's legends on which the sun-face occur are of the Indore mint.

J. ALLAN,
British Museum.

Note.—I figure my own specimen of this rare coin as it throws some doubt on the reading T over صا on the reverse and fills up gaps in the obverse legend, which is probably the same as that on No. 2325 in vol. III of the I. M. Catalogue. My coin was obtained in the bāzār at Dehlī in 1903.

H. NELSON WRIGHT.

106. A CHAHĀR TĀNKĪ OF AKBAR.

Mughal Emperors.

Akbar.

Æ. *Weight* 241 grs. *Size* ·8.

Mint Aḥmadābād.

Date 46 Ilāhī. *Month* ? Ābān.

Obverse.

اکبر شاہ

چہار تانکے

Reverse.

ابان الہی

۴۶ احمدآباد

ضرب

This coin is one of the earliest of Aḥmadābād tānkīs. The inscription on the obverse is very clearly *Chahār Tānkī* (though the چہ of چہار does not actually find a place on the coin) and corresponds to the usual chau Tānkī. As far as is known, no similar specimen of this or any other mint has yet come to light.

According to Dr. Taylor's most informing article in Num. Sup. IV., *J.A.S.B.*, the earliest Aḥmadābād tānkī is of Ilāhī 46 Āẕar (9th month). The latest Aḥmadābād tanka is of Ilāhī 46 Ardibihisht (2nd month). There are therefore no copper coins of Aḥmadābād known of the months Khūrdād (3rd) Tīr (4th) Amardād (5th) Shahrēwar (6th) Mihr (7th) or Ābān (8th) of this year.

It is extremely probable that this coin fills in the gap between the two types of tanka and tānkī and the word *chahār* was replaced by *chau* later for the sake of uniformity. It is unfortunate that the month name is very much rubbed. The last two letters I take to be "*ān*". If they are, the month Ābān is indicated.

I may here remark that I have in my cabinet an Aḥmad ābād tanka of Ilāhī 46 with a month name which may be Tīr Shahrēwar or Mihr. It is not worth publication, but it shows that the issue of the *chahār tānkī* was limited to a period of at most four months and perhaps only to one month.

The coin I publish, as representing a short transitional stage, is necessarily very rare.

AḤMADĀBĀD: A. MASTER.
1912.

107. TWO RARE COINS OF MAḤMŪD I OF GUJARĀT.

I. Æ. *Weight* 113 grs. *Size* ·7
Mint [Aḥmadābād.]
Date 874 A.H. in Arabic words.

Obverse.		*Reverse.*
In square area.	In margins: top [صنه]	
السلطان	left اربع	الدنیا
شاه	bottom سبعین	ناصر ابو
محمود	right ثمانمایة	والدین
		الفتح

Translation.

Obverse in square area. Maḥmūd Shāh the Sulṭān.
In margin. The year eight hundred and seventy-four.

Reverse—The defender of the world and of the faith, the father of victory.

The coin is of silver with a slight alloy of copper.

I have not called the metal billon in view of the definition of the word in Jevons' "Money and the Mechanism of Exchange," Edition of 1875, H. S. King and Co., London, pp. 125, 126. Jevons calls billon a very low alloy of silver and copper" and states that in France coins were current at one time containing only one part of silver to five of alloy and that in Norway billon coins are in circulation consisting of one part of silver and three of copper.

German billon, says Jevons, consists of silver alloyed with three, four or more times its weight in copper.

It is of a type and weight hitherto unknown in the coins of Maḥmūd I. It appears that it was Maḥmūd I and not Muẓaffar II who initiated what Mr. Wright on his Introduction to the Sulṭāns of Gujarāt, I.M.C., calls the 64 ratī standard (? 115·2 grains). The coin is slightly worn in one or two places and its full weight would have been about 16 of Dr. Taylor's units rather than 15, as he suggests for the weight of the coins of Muẓaffar II, which apparently correspond.

It is especially interesting to note that the period 870-879 A.H. is the sole decade during the occupation of Gujarāt by Aḥmad Shāh's dynasty, in which the date on coins was expressed in (Arabic) words and not in figures.

II. Billon. *Weight* 172 grs. *Size* ·7.

Mint [Aḥmadābād.]

Date 878 A.H. in Arabic words.

Obverse in circular area.

محمود شاه السلطان

in margin

فی سنه ثمان سبعین و ثمانمایه

Reverse.

ناصر الدنیا و الدین ابو الفتح

The type is distinctly that of Taylor, Guj. Sulṭ. No. 43. Dr. Taylor has not published this weight of billon coin in his article on the coins of the Gujarāt Sulṭanat referred to in brief above, though he has specimens of the type now in his cabinet.

There is a copper coin in my possession of the same type dated 879 A.H. The representation of the date in words is possibly in imitation of Muḥammad Tughlaq, cf. I.M.C., p. 94, and as I have said on the previous note, seems to have been in force for the decade 870-879 A.H. only.

It may be remarked that coins of this decade are not often met with. When Dr. Taylor wrote his article, there were five years of the decade still unrepresented by any metal.

A. Master.

Aḥmadābād:
1912.

14. The Pitt Diamond and the Eyes of Jagannath (Puri).

By Rev. H. Hosten, S.J.

On reading Colonel H. Yule's account of the famous Pitt Diamond,[1] I was reminded of certain texts which escaped his researches and seem to dispose of some of the damaging stories related about Pitt.

The Pitt Diamond, or the Regent, was sold by Governor Pitt in 1717 to the Regent Duke of Orleans for 2,000,000 livres, and was estimated in 1886 to be worth 12,000,000 francs. According to Pitt's own solemn declaration (1710) it was bought by him at Madras about February 1702 for 48,000 pagodas, or about £24,000.[2] It weighed then 426 carats, as against 136 $\frac{13}{16}$ carats according to the French inventory of the royal jewels in 1792. Where Jaurchand, the jeweller, had obtained it, he does not tell us.

As soon as the diamond was placed on the market, reports were current that Pitt had obtained it in some dishonourable manner. It was asserted for instance that it had come from the mines of Parkat, 45 leagues south of Golkonda, where it had been "found by a slave, who, in order to hide it, wounded himself in the thigh, and hid the stone beneath the bandage. He at length acknowledged this to a sailor, and promised him the stone, if only he would secure him his freedom. The sailor enticed the slave on board, took from him the diamond, and then threw the slave into the sea. The murderer sold the diamond to Pitt for £1,000, spent the money quickly in excesses of all kinds and eventually from a murderer became a suicide."[3]

Another story appeared in the *Gentleman's Magazine*, Vol. XLVI, 1776, page 64, J.C., the writer, stating that he had found it in the *Journal des Sçavans* for July 1774, p. 553. From a letter of a French Missionary it appeared "that one of the principal diamonds of the crown of France, and which was purchased of an Englishman, was one of the eyes of the god

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[1] Cf. *The Diary of W. Hedges*, London, Hakluyt Society, 1886, Vol. III, pp. cxxv to cxlvi.

[2] Bābū Monmohan Chakravarti points out to me that Lord Rosebery writes "£48,000" instead of pagodas in *Chatham, His early life and connections*, 1910, page 4.

[3] Cf. *The Diary of W. Hedges*, London, Hakluyt Society, 1886, Vol. III, page cxxxvi. The story is taken from Streeter's *Precious Stones and Gems*, London, 1877, p. 118, and was borrowed, Yule suggests, from some work of the earlier half of the XVIIIth century.

Jagrenat, a famous idol, placed at a pagoda at Chandernagor, in Bengal; that this god Jagrenat had since continued with only one eye, and that the French have done all they could to blind him entirely, but have not succeeded because he is better guarded.

"This account," the writer continued, "differs, I think, from the common one of that diamond, which is, that it was brought from its native bed, concealed in a gash which a slave had made in his leg. In what condition was it when it first came into Mr. Pitt's hands? If rough and unpolished, I should not doubt of the supposed sacrilege; for I imagine, a diamond in its natural roughness would not have made a more brilliant figure in Jagrenat's head than a piece of alum."

The *Gentleman's Magazine* (*ibid.*, page 105) published a rejoinder by W. G., who expressed his surprise at J. C.'s preposterous conjecture. Why, he asked, should the Regent have been a fitter ornament for the head of an Indian idol, while it had no more brilliancy than a piece of alum, than when cut and polished? Besides, he remembered that opinion was rejected, on account of its absurdity, soon after the diamond became the common subject of discourse in Queen Anne's reign.[1]

Colonel Yule searched in vain for the story in the *Journal des Sçavans*. We suggest that it had appeared in that paper in 1754, instead of in 1774. In fact, the original letter in which the story is told is dated from Chandernagar, 1st January, 1753. It was written by a Jesuit Missionary, whose name is not given, but who had only lately arrived at Chandernagar from Lorient. The passage in question is as follows: "*Near* Chandernagore there is a great pagoda or temple dedicated to the god Jagrenat. This divinity is placed on a kind of rather high altar. Formerly, it had two eyes of such dazzling splendour that one dared not look at it. They were two precious stones of inestimable value. An Englishman plucked out one of them, some years ago, and left the god with only one eye; our French have often tried to make him altogether blind; but he is actually so well guarded that they have lost the hope of succeeding. The rumour here is that the English profaner sold the eye of the god Jagrenat to the King of France, who wears it on certain days of ceremony."[2]

"Some years ago" would seem to imply a comparatively short period, whereas 36 years had elapsed since Pitt's transaction with the Duke of Orleans. And did the French of Chandernagar really believe that the Englishman who had pro-

[1] Cf. H. YULE, *The Diary of W. Hedges*, III, page cxxxii. Queen Anne reigned from 1702 to 1714, and the diamond became the subject of discourse in 1710. (*Ibid.*, page cxxxi.)

[2] Cf. *Lettres édifiantes et curieuses*, Paris, Vol. XIV, 1781, page 278.

faned the temple was the same who had sold Jagannāth's eye to France, *i.e.*, Governor Pitt ?

The story of a theft at Jagannāth is a great deal older.

Father Guy Tachard, S.J., wrote from Chandernagar, 18th January 1711 :[1] "I should have liked to instruct myself personally of the particulars related to me concerning the pagoda of Jagrenat ; but they tell me that no one is allowed to enter who does not make public profession of idolatry ; the Moors themselves dare not go near ; they are particularly on their guard against the French. It is a constant rumour in the country that a Frenchman, disguised as a *Pandaron*,[2] entered, about thirty years ago, into the temple, that he remained in hiding there, and that, during the night, he removed a big ruby, of inestimable price, which formed one of the eyes of the Idol."

This is a very different version. The thief was a Frenchman ; the theft had been committed some thirty years before, and the stone abstracted was not a diamond, but a ruby. It would seem then that in 1711 no one spoke yet in India of any connection between the Pitt Diamond and the temple of Jagannāth. It could have been no longer a secret, however, that Pitt had bought the diamond, since on August 3rd, 1709, he was accused before his Council at Madras by Lieutenant Seaton of having bought "a great diamond to the Company's prejudice."[3] On the other hand, it is not likely that Father Tachard, who had only just arrived in Chandernagar from Pondicherry, where he had been a prominent figure for several years, should have ignored some of the chief accusations levelled against Pitt. How then does he speak of a ruby, if not because nobody had yet thought of associating Pitt's name with the theft supposed to have been committed at Jagannāth ?

Manucci has a similar story. More dramatic and still more improbable, it attributes the theft of both eyes to a Portuguese. After telling us of a Portuguese at San Thome, whom the Hindūs began to worship on account of his long arms which reached below his knees, he proceeds :—

"There was another similar case when a long-armed Portuguese went to stay at Jagarnath, adjoining Bengal, where there is a very large and ancient temple, greatly renowned in India, and very wealthy. On this man's arrival, the Hindū priests and the people of the town heard of him. They all came to meet him and conducted him straight to the temple with great respect and veneration. They made over to him the idols and all the wealth of the temple.

"Having become master and receiving their obedience, he

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1 Cf. *ibid.*, Vol. XII, 1781, page 45.

2 From *pāṇḍara* (Saṁskṛt) : one clothed in pale or yellowish white, the garb of Indian Jogīs.

3 Cf. *The Diary of W. Hedges*, III, pages cxvi, cxxxi.

led a joyous life, regaling himself with delicate dishes . . . whenever he pleased. . . . . The great man lived for some years in this way, when disgusted at leading such an unbridled and luxurious life, he resolved to employ the wealth of the temple in another way. To this intent he wrote to Goa to one of his brothers, with instructions how to act. The brother, turned into a merchant, appeared at the temple, when the would-be holy man recognized him, displaying great astonishment, and telling him he was a great sinner, rash in his undertakings, and if he did not amend he would be heavily punished.

"The sagacious brother fell at his feet, saying he hoped to receive the means of salvation by the passing of an order to admit him for several days into the temple to be catechized and put in the right way. Both brothers feasted at night within the temple, and took counsel together how they could carry off the wealth. The consultations were so secret that they were able to carry off all the wealth of the temple without being found out. At their secret departure they gouged out the eyes of the idols, they being valuable diamonds; then, they disappeared after fastening the temple doors. The Brahmans and other devout persons who came to perform their ceremonials imagined that the saint was at his orisons. When three days had passed they entered and found out the trick, and were undeceived. From that time they allow no Christian to enter." [1]

It is difficult to date many of Manucci's stories. This is one of them. For our purpose it is enough to remark that it occurs in the 3rd part of Manucci's Memoirs, which was written in 1699 and 1700, the three first parts having been carried to Europe by Deslandes in 1770. It is not surprising, therefore, that the story had not developed further; but it is, perhaps, suggestive that Manucci, who wrote Part IV of his *Storia* between 1701 and 1705, and Part V between 1706 and 1709, should allude nowhere to the Pitt Diamond.[2] He had, however, been employed by Pitt on several occasions (1798-1709), lived at Madras and Pondicherry between 1686 and 1717, and look a lively interest in all the scandals of his time.

As for Manucci's anecdote, the fabulous nature of most of its details is glaring. It is incredible that a European should have been made absolute master of the temple, incredible that he should have been admitted at all to its innermost recesses. How is it possible, too, that the theft should have been discovered only three days later, when we know that the temple swarms with priests and servants who, morning and evening, are in attendance on the idols? Why again did the Portuguese want a partner from Goa, whom it would be so difficult to

[1] Cf. W. Irvine, *Storia do Mogor (1653-1708)*, London, Murray, Vol. III, 1907, pages 140-141.

[2] Cf. *ibid.*, vol. I, pages xxxix, lxxiv.

introduce, and whose services, as far as we can see, could be dispensed with ?

The oldest account of the robbery, which I can find, is in Tavernier's *Travels.*[1] Tavernier came a first time to Dacca apparently in 1640, during his second journey to India. During his sixth and last journey, he visited Dacca again (January 1666) and arrived at Hūglī on February 20th, staying on till March 2nd, 1666. If we must judge from his diary, he never visited Jagannāth. His description of the temple militates, besides, against any such visit.

"Jagrenate," he writes, "is one of the mouths of Ganges, whereupon is built the great Pagod, where the rich Bramin or Chief Priest among the Idolaters keeps his residence. The great Idol that stands upon the Altar in the innermost part of the Pagod, has *two Diamonds for his Eyes, and another that hangs about his neck,* the least of those Diamonds weighing about forty Carats. About his Arms he wears Bracelets sometimes of Pearls, and sometimes of Rubies ; and this magnificent Idol is called *Resora.*[2] The revenues of this Pagod are sufficient to feed fifteen or twenty thousand Pilgrims every day : which is a number often seen there, that Pagod being the greatest place of devotion in all India. But you must take notice, that no Goldsmith is suffered to enter this Pagod, because that one of them being lock'd in all night, stole a Diamond out of one of the Idol's eyes As he was about to go out, when the Pagod was open'd in the morning, he dy'd at the door ; their God, as they affirm, revenging his own sacriledg. . . . "

If the culprit was really struck dead, the jewel must have been recovered and, for aught we know, it should be still in the hands of the temple authorities.

Father J. V. Bouchet, S.J., who joined the Madura Mission in 1688 and had started the Carnatic Mission in 1702, has the following in a letter from Pondicherry, 19th April, 1719:—

"Jagrenat is celebrated for its Pagoda. *Our travellers &*

[1] E. T. TAVERNIER, *Collection of Travels, &c., being the Travels of Monsieur Tavernier,* . . . . , London, 1684, Vol. I, Pt. II, page 173f.

[2] V. Ball in his edition of *Tavernier's Travels,* London, 1889, Vol. II, page 225, identifies "Kesora" [*sic*] with Krishna. Might not "Resora" represent a partial rendering of "Parameśvara" = God ? Some of the elements of Tavernier's description look strangely similar to certain passages in Faria y Sousa. In a naval engagement against 29 vessels of the King of Calicut (1502) the Portuguese were victorious. "The booty was considerable, the chief Thing an Idol of Gold, weighing 30 pound, of monstrous shape, *his Eyes were two Emrauds, and on his Breast was a large Ruby,* and part of him was covered with a Cloak of gold set with jewels." Cf. *The Portugues India,* London, 1695, Vol. I, Pt. I, Ch. VI, No. 7. In Vol. II, Pt. IV, Ch. VI, *ibid.*, page 393, there is a description of the pagoda of *Rettora* near Cranganore : "The idol is still covered with pure bright gold that shines like Fire ; his Crown is of an inestimable value, and has many precious stones ; in the Forehead three rubies that exceed all price, on his Feet Buskins valued 200,000 Ducats."

especially M. Tavernier relate wonderful things about it; *they* assure us that there is in that Temple an Idol, whose eyes are formed of two big diamonds; that another hangs on his stomach; that his bracelets are of pearls & rubies; & that the revenues of that Pagoda are so considerable that they can feed from fifteen to twenty thousand pilgrims. Apparently they speak only of the time when feasts are celebrated in honour of the Idol. *The other things related seem rather suspicious.* What is certain is that *that pagoda is little known in the southern parts of India* and I never heard it spoken of except by one Indian; whereas they vaunt greatly that of Cachi [Kāśī] which I think to be the same as Banare [Benares]." [1]

If, as W. G. recollected (?) in 1774, the story of the *provenance* of the Pitt Diamond from Jagannāth had made its way to Europe in Queen Anne's reign, i.e., before 1714, it is rather strange that Father Bouchet either knew nothing of it, or did not deem it worth relating to his friends in France, where such a story would, however, have excited no small interest. Did Father Bouchet include it among the many suspicious things which he had heard or read?

I have examined, though in vain, several other likely European writers, especially for older allusions to the story: e.g., Thomas Bruton, who passed through Jagannāth in 1632, Fray Sebastian Manrique, O.S.A., who was in Bengal between 1628 and 1640, Bernier, Thomas Bowrey (1669-1679), and Alexander Hamilton. But it may be noted that, with the exception of Bruton, all describe the temple from hearsay. It would not, however, be surprising if other European versions of the story were in existence. We have heard of an English burglar, of a French *Jogī*, of a long-armed, light-fingered Portuguese, and of a jeweller belonging to no particular nationality. The variant of a Dutch robber might yet turn up. Or were the Dutch above suspicion?

We have still to consider some of the Indian accounts.

Abul Faẓl says nothing in his description of the temple of Pūrī about diamonds in the eyes of the images.[2] Badāūnī writes of Sulaimān Kirānī, ruler of Bengal (1564-1573), that he made Jagannāth a home of Islām.[3] This is merely a rhetorical figure; for Abul Faẓl states simply that he conquered Orissa, "in which the temple of Jagannāth is situated," [4] and that in the 35th year of Akbar's reign Mān Singh made Jagannāth and its dependencies subject to the royal exchequer.[5] C. Stewart writes, I do not know on what authority, that the rich

[1] Cf. *Lettres édif. et curieuses*, Paris, 1781, Vol. XIV, pp. 106-107. The italics are mine.

[2] Cf. *Āīn*, Vol. II, Col. Jarrett's translation, pp. 116–128.

[3] Elliot's *Hist. of India*, V, 511.

[4] *Ibid.*, VI, 36.

[5] *Ibid.*, VI, 86–87.

and sacred treasury of Jagannāth was looted by the covetous Afghans about 1591.[1] The following entry in a private diary entitled *Tabçirat-ul Nāzirīn*, kept by a Bilgrāmi Sayyid named Sayyid Muḥammad, son of Mīr Alwal Jalāl, is more to our purpose. It was communicated by Prof. Blochmann to Rājendralāla Mitra, the author of *The Antiquities of Orissa* (Calcutta, 1880, II, p. 112).

"On the 24th Shawwāl of this year (A.H 1129) died Mīr Sayyid Mahmūd of Bilgrām. He was a man held in great respect, and had served under Nawāb Ikrām in Orissa. When Aurangzib had sent orders to the Nawāb to destroy the temple of Jagannātha, Rājā Durap Singh Deo, who had the temple under him, asked the Mīr to introduce him to the Nawāb. The Rājā promised to break up the temple, and send the big idol to the Emperor. He actually did break the statue of Rākas, which stood over the entrance of the temple, and also two battlements over the door. The idol, which was made of sandal wood, and which had two valuable jewels set in the eyes, was carried off and sent to Aurangzib at Bijāpur, where it was thrown by order on the steps of the Mosque."

Rājendralāla Mitra observes that the Rājā referred to "is obviously Dravya Siñha Deva, who reigned from 1690 to 1713 A.D. He was only a titular Rājā, living as a zemindar under the supremacy of the Moghals, and the attempt on his part to ingratiate himself in the favour of the Nawāb by breaking a statue, or a couple of battlements, is by no means remarkable. Whether he sent away the divine images or some substitutes for them is not known."[2]

If the story of the *Tabçirat-ul-Nāzirīn* is correct, that of the Pitt Diamond having come from Jagannāth would drop out altogether; for, if the statues were sent to Aurangzib, no underling would have been daring enough to meddle wtih the diamonds. And granting that they came into Aurangzib's hands, it is extremely improbable that one of them should have so soon got out of his possession to be disposed of to Pitt Not only so; but, could the "Pitt" have been one of the two diamonds in question? We must not forget that it was a raw diamond, while we must expect that only stones remarkable for their brilliancy would have been selected for the idol of Jagannāth. Besides, if the Pitt Diamond, second only

[1] Cf. *Hist. of Bengal*, London, 1813, p. 184.

[2] We may perhaps recall what Tavernier (Ball's Edn., I, 290) says of a large number of idols of gold and silver taken by Mīr Jumla from a pagoda near Gandikot in 1652. Six were of copper, three of which were seated on their heels, and three others were about 10 feet high. These six Maillé, the Frenchman, could not manage to melt down to make guns of. For other cases of idol-breaking under Aurangzib cf. Elliot, *Hist. of India*, VII, 184, 188. Cartloads of Hindū idols from Jodhpur were brought to Aurangzib in 1679, and some were placed beneath the steps of the great mosque (Delhi?) to be trampled under foot.

to the "Great Moghul," had come into Aurangzib's possession from Jagannāth, how is it that no description of it, and especially no account of any subsequent theft from Aurangzib's treasury, was made by either Muḥammadan historians or European travellers? It is true that, when the Moghul heard of Pitt's Diamond about 1710, he ordered Pitt's successor at Fort St. George, Madras, to send it up to him without delay, little suspecting that it had already left the country; but, on what grounds he claimed it we do not see.[1] If it had been stolen from the Royal treasury, this would have been alleged, whereas no allusion to any such theft was made. We must then infer that the King and his jewellers supposed the stone to have come from the Golkonda mines, which were looked upon as the King's property, and that they claimed either possession or right of pre-emption or the usual royalty of 2% on all purchases.[2] According to Methold (about 1622), the Moghul retained all stones above 10 carats, and we know that Shāh Jahān claimed and obtained "a wonderfully large diamond from a mine in the territory of Golkonda [which] had fallen into the hands of Kutbu-l-Mulk." When cut, it weighed 100 *ratīs* and was valued by the King's jewellers at one lākh and 50,000 rupees.[3]

There are other serious difficulties against accepting the statement of the *Tabçirat-ul-Nāzirīn*. It stands unsupported by any contemporary evidence, European or Indian. If the temple of Jagannāth had been profaned between 1690-1713 and the *statue* and jewels abstracted, an event of such enormous importance to Hindūs generally would have been widely spoken of, and we cannot understand what room there might have been left, after Tavernier's time, for such stories as we have heard from Manucci, Père Tachard, and others. How is it, too, that the Pūrī Temple Annals are silent, when they do speak of earlier profanations under Kālāpahār?[4] Neither do they refer to the theft of diamonds by Europeans. Bābū Monmohan Chakravarti writes to me: "I have gone through the greater part of the palm-leaf chronicles of the temple of Jagannātha [the *Māṇḍala Pānjī*], but I have not come across any account of the theft of any diamond by any Sāhib from the temple."

This is not all. We may justly doubt whether diamonds were ever set in the eyes of the images at Pūrī. Supposing such a custom to have existed three centuries ago, we should expect it to exist still, even had it led to occasional robbery in the past. Now, Rājendralāla Mitra, who "as a Hindu by birth

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1 Cf. H. YULE, *Diary of W. Hedges*, III, pp. cxxxi-cxxxii.
2 Cf. V. Ball's edit. of *Tavernier's Travels*, II, pp. 63, 66—67.
3 Cf. ELLIOT'S *Hist. of India*, VII, 84.
4 Cf. RĀJENDRALĀLA MITRA, *The Antiq. of Orissa*, II, p. 111.

and a Vaishṇava by family religion, . . . had the freest access to the innermost sanctuaries, and to the most secret of scriptures,'' [1] says nothing of diamonds in his description of the images of Balabhadrā, Jagannātha and Subhadrā.[2] His silence is the more significant as he was the first to quote the text of the *Tabçirat-ul-Nāzirīn*. Reliable information concerning the secrets of the Pūrī sanctum it is hard to obtain. I believe that many of the natives, Bengalis and Oriyas alike, are convinced that the statues of Pūrī have diamond eyes; yet, Bābūs Gobinda Lāl Banerjee and Monmohan Chakravarti write independently in answer to my enquiries that there are no diamonds in the eyes of Jagannāth, but "a big diamond," "a fair-sized stone," is stuck "on the forehead," "in the tilak ornament on the forehead." Even this Rājendralāla Mitra does not mention. Assuming the information of my correspondents to be correct, one might ask oneself whether the story of the theft of one of the eyes did not originate from a desire on the part of the people to explain the single "eye" in the forehead. This, however, is not very likely. On the other hand, I must say that I have elicited from Oriyās in Calcutta, who visited Pūrī and believe in the diamond eyes and the diamond tilak, a legend agreeing in substance with that of Tavernier, of a thief—Frangi or not—struck dead when about to make off with his booty. "From my father, who was at Puri in 1860 and later," writes Bābū Monmohan Chakravarti, "I have heard that a story was current of some Sāhib having stolen some diamond from the body of the image with the aid of a Pāndā or priest. I cannot, however, vouch for its accuracy." It would be interesting to know more about the Oriyā legend and its variants; but, my endeavours in that direction having failed, I must leave to others better situated than myself to examine the Orissa folklore on this point.

Whatever be the origin of the Oriya version of the story, whether it be merely a popular fancy, or founded on fact, or invented by the custodians of the temple and retailed with suitable variants to discourage undesirables who sought admittance, its European counterpart may be simply an adaptation or development of it. It may also be that a few historic cases of diamonds stolen from the eyes of Indian idols had created among Europeans the traditional impression that the practice of introducing precious stones into the eyes of idols was a pretty general one. Such stories would, later on, become easily disconnected from the scene of their occurrence and be tacked on to one or other of the more famous temples. The local legends at Pūrī might have invited the transfer.

I have come across two such stories of a very early date

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1 Cf. *ibid.*, p. 111.
2 Cf. *ibid.*, pp. 122—23.

in the Portuguese conquest, and I doubt not there must exist many more. One of them belonging to the year 1502 has been quoted from Faria y Sousa at p. 5, note 2. The other belongs to the year 1604. At Diu there were two famous pagodas: one sacred to "Mahesse," the other to "Crangane." "On that mountain stood formerly the Pagode of Crangane, of which we spoke above; but, from the time that the Portuguese became masters of the island, the Gentoos hid the idol of it underground in a house built in the form of a cistern, for greater security. But, a Portuguese soldier having discovered it plucked out the eyes (which, perhaps, were made of precious stones) and gave it a sword-cut in the face, a few days before the Pagode of Mahesse was rased to the ground. The Pagans seeing the idol of Crangane treated in this way carried it elsewhere." [1]

We have similar accounts in early Moslem authors. Alberuni, Ebn Haukal and Eçtakhry describe an idol at Multān which was entirely covered by a skin resembling the skin of a red antelope, so that only its eyes could be seen. The eyes consisted of "two precious stones" (Ebn Haukal and Eçtakhry), of "two rubies" according to Alberuni.[2] Idols in Nepal have often large cowries inserted in the eyes, with a black stone in the centre to imitate the pupil. It is still an Indian custom, too, to make images consisting entirely of precious stones.

V. Ball has a theory of his own concerning the Pitt Diamond which, for the sake of completeness, we must quote here. (Cf. *Tavernier's Travels*, II, 435).

"No attention," he writes, "has hitherto been given by writers to a large diamond which, as pointed out in a footnote (cf. vol. II, 54) was obtained by a Portuguese who worked the mine at Wajra Karur in Bellary about the beginning of the seventeenth century. It weighed apparently, 437·7 carats. Nothing of its subsequent history is known, but it cannot have been the one presented by Mir Jumla to Shāh Jahān [about 1656].[3] It may, however, have been the Pitt Diamond, which, when offered to Pitt in 1701, weighed 426 carats; but if so, it

[1] Cf. DU JARRIC, S.J., *Histoire des choses plus memorables* . . . ., III, Livre V., Ch. 30, pp. 214—21, in particular p. 220; or FERNAM GUERREIRO, S.J., *Relaçam Annal das Cousas* . . . . *de 606 and 607* . . . . Lisboa, 1609, L. III, C. 9, fol. 169v-174v, in particular 173v.

[2] Cf. E. REHATSEK, *Early Moslem accounts of the Hindu Religion*, in *Journal Bombay Branch of Roy. As. Soc.*, XIV, pp. 39-41.

[3] The "Great Moghul" diamond, which Ball identifies with the Koh-i-Nur. Five years earlier, V. Ball (cf. *Ind. Antiq.*, 1884, Vol. XIII, p. 243) thought that it was possible to identify one of the stones mentioned by Garcia de Orta with the Great Moghul. For the maturer view, see V. Ball's *Tavernier*, II, 433. In connection with the Indian practice of bestowing valuable jewels on temples, it is worth noting that Ranjit Singh on his deathbed (1839) expressed a wish that the Koh-i-nur, then valued at one million sterling, should be sent to Jagannāth. Cf. V. BALL, *op. cit.*, II, 446.

remained uncut for nearly a century, and the generally accepted story of the Pitt Diamond is that it was obtained at the mine at Partial."' [1]

As felt by V. Ball, the strong objection against the identification of the Pitt Diamond with that discovered by a Portuguese about 1610, is that it should have remained so long in India without being heard of or finding a buyer, even in the Great Moghul.

We do not know how the Pitt Diamond was ever supposed to have come from Sumatra or Borneo. "The celebrated Pitt, or Regent, diamond," writes Lieutenant Newbold (*Journ. Roy. As. Soc.*, VII, 1863, p. 236), "has been erroneously stated to have been found at Malacca. During a residence of three years at that place, I made several enquiries on the subject from the Malay and Chinese miners, and also from the old Dutch and Portuguese inhabitants; but they all affirmed that diamonds never have been discovered there at all, and that the diamond in question, which is considered the most perfect of any that has hitherto been discovered, was sold to Mr. Pitt, of Bencoolen, in Sumatra,[2] by a merchant from Borneo. It was sold by him to the Duke of Orleans for £130,000, and placed among the crown jewels of France. Its value is said to be half a million sterling. The statement of the Malays, of Malacca not producing diamonds, is borne out by the nature of the formation in its vicinity, which is a stanniferous granite overlaid by laterite."

To conclude. It is easy to understand that, when the story of the Jagannāth robbery had got into circulation among Europeans either through Tavernier's writings or independently, malicious slanderers or irresponsible story-tellers should have linked it with the Pitt Diamond.

It is more likely that the diamond came from Golkonda. So says Mr. Salmon, the author of *The Universal Traveller*, London, 1752, Vol. I, p. 116. Why should we doubt his testimony? "These Diamond Mines [of Golkonda] are walled round, and have a garrison for their Defence; and these Stones may be purchased, either of the Merchants who reside near them, or a Man may hire a Piece of Ground and take his Chance. Sometimes they have a good Bargain....and if they happen to meet with a Diamond of an extraordinary Size the Moguli's agent will have the refusal of it; though if a large Diamond happens to be carried out of the Mine without the officer's knowledge, nobody questions the Proprietor how he came by it; he may sell it in any Fair or Market. The greatest market for Diamonds ....is in the Mogull's camp in the dry season. For all at that time... all Tradesmen and Artificers forsake the Towns and

[1] *Sic* everywhere in Ball, instead of Parkal.
[2] I do not see how Pitt ever was at Bencoolen.

follow him into the field. And it was a rich Black Merchant in the Mogull's Camp that sold the great Diamond to Mr. Pitt about the Year 1700, which he afterwards sold to the French King for about 100,000*l.*, but I could never learn the exact sum. And this was so far from being a great Bargain, that Mr. Pitt declared he lost Money by it. He gave 24,000*l.* for that Diamond, and considering he was Governor of Fort St. George for ten years, he might have made more money by trading with that Sum, than he did by the Diamond. I mention this Passage because I was on the spot and thoroughly acquainted with the Transaction in India, and am able to refute the scandalous Stories, that have been raised of the Means whereby the Governor acquired this Jewel. It lay some months at Fort St. George, in the hands of the Merchant's Agent that sold it, in order to find a Chapman for it, and Governor Pitt was the best Bidder; no Manner of Compulsion was used to obtain it."

Some obscure passages in this quotation are, happily, cleared up by Captain Alex. Hamilton, who traded in the East Indies between the years 1688 and 1728. The extract which we are going to quote had escaped Colonel H. Yule. It is of considerable importance as bearing out Salmon's contention that the stone came from Golkonda.

"The Diamond Mines, being but a Week's Journey from Fort St. George, make them pretty plentiful there, but few great Stones are now brought to Market there, since that great Diamond which Governor Pitt sent to England. How he purchased it, Mr. Glover, by whose Means it was brought to the Governor, could give the best Account, for he declared to me that he lost 3,000 Pagodas by introducing the Seller to Mr. Pitt, having left so much Money in Arcat as security, that if the Stone was not fairly bought at Fort St. George, the Owner should have free Liberty to carry it where he pleased for a Market; but neither the Owner nor Mr. Glover were pleased with the Governor's Transactions in that Affair. Some Customs and Laws at the Mines are: when a Person goes thither on that Affair he chooses a Piece of Ground, and acquaints one of the King's Officers, who stay there for that Service, that he wants so many *covets* of Ground to dig in; but whether they agree for so much, or if the Price be certain, I know not. However, when the Money is paid, the Space of Ground is enclosed, and some Sentinels placed round it. The King challenges all Stones that are found above a certain Weight—I think it is about 60 Grains; and if any Stones be carried clandestinely away above the stipulated Weight, the Person guilty of the Theft is punished with Death. Some are fortunate, and get Estates by digging, while others lose both their Money and Labour."[1]

[1] *New Account of the East Indies*, Vol. I, Ch XXIX, pp. 369-70.

15. The Bardic Chronicles.

By Mahāmahopādhyāya Haraprasād Shāstri.

As a specimen of the sort of literature to be found in Rājputānā, I give the following verse :—

Setnī hẽsyo seṭ āyo
Brāhmaṇ hẽsyo gay dhan pāyo;
Tu keũ hẽsyo bhikhḍa bhikhi
Ik kalā maya idki sikhi.

Simply read or heard the meaning is not clear. There is a whole story hanging by the verse—the story of a Brāhmaṇ and a village of rogues.

A Brāhmaṇ, though learned, was very poor. He had a grown-up daughter, and he was very anxious to get her married. He went to Delhi, lived there for six months, saw many Hindu noblemen and got about four thousand rupees in jewellery and cash. Well pleased with the success of his sojourn, he thought of starting for home, but he was advised by his friends at Delhi to avoid a village notorious for its roguery, on the Banas. The Brāhmaṇ started back for home, and as luck would have it, it was evening when he reached the village on the Banās. It was a small stream there, which he easily leaped over. A public woman was cleansing her plates. She thought this man must be a man of substance otherwise how could he leap over this broad enough stream. She called the Brāhmaṇ, told him that it was evening and the forest in front was extensive and infested with wild animals, and that it would be advisable to pass the night at her home where he would be taken every care of. The Brāhmaṇ reluctantly consented. She gave him a place in her cow-shed and cleansed the spot for his cooking. But he had scarcely said his evening prayers when a man came from the banker's son offering her fifty rupees for the night; she declined it, saying she had a Brāhmaṇ for her guest and cannot leave her house that night. The Brāhmaṇ was so much pleased with her conduct that he thought within himself, "how was it that I was warned against the roguery of this village, where women, so low as this, are so hospitable?"

Scarcely had the messenger of the banker's son turned his back when a grocer came to this woman to settle his accounts. The account was easily settled, the money paid and the parties separated well pleased with each other. The Brāhmaṇ had just lit the fire for the purpose of cooking, when the grocer returned and offered half a pice to the woman,

saying this was in excess of her account. The Brāhmaṇ was surprised : he thought, "If I can get a night's shelter at the grocer's place, who belongs to a clean caste, it would be better for me. I may not have the trouble of cooking after the fatigue of a day's journey." The grocer readily consented to the Brāhmaṇ's proposal, and taking him home ordered his cook to prepare sufficient quantity of *puri* for the Brāhmaṇ.

The Brāhmaṇ had not yet taken his meal when a young, all-shaven mendicant came and demanded from the grocer the daily allowance of bread for his preceptor. The grocer said, "Better take *puri* to-day," and gave him a quantity. The Brāhmaṇ had scarcely finished his meal when the mendicant returned and said that his preceptor had indignantly rejected the *puris*. He was a mendicant : he could not take rich food : he would like to have hand-made bread as usual. The surprise of the Brāhmaṇ was great : he went with the mendicant at the monastery to pass the night under the protection of so pious a preceptor.

On his arrival at the monastery, the preceptor gave him a room and a key to the room, asking him to be very careful about his property.

The Brāhmaṇ heard a sound of distant music. On inquiry he came to know that a theatrical party had come to the village and was about to give a performance. The Brāhmaṇ's suspicion was so completely lulled, that he locked his door, went to the place and enjoyed the performance to his fill.

But when he returned next morning, lo! there was no monastery, no mendicants. It was a busy place of trade, goods coming and going. The place was full of account books, scales and gunny bags. He inquired about the monastery and the monks ; he was answered that there was no monastery and no monks.

Then it dawned for the first time on his mind that his friends at Delhi were absolutely right in warning him against the roguery of the village. He roamed over the place the whole day to get some clue for the recovery of his property, but without success. In the evening, in utter despair, he commenced his journey homewards, came to the river, but in attempting to leap over he fell into the water. The woman was there as on the previous day. She called the Brāhmaṇ, heard the whole story, and asked him what he was going to do. He said there was no remedy, he must go home. The woman said, she would recover his property, if he followed her advice, in fifteen days, but on condition of receiving half his belongings.

On the fifteenth day a well-dressed Setni in a palanquin, with a number of retainers, came to the village and began to bewail the loss of her husband, a rich Seṭ, who had gone to Delhi and sent no word for six months. She was therefore going to Delhi. The preceptor of the monastery hospitably

received her, gave her consolation, and tried his best to make her comfortable. A short time after, one of her retainers came to her running out of breath and informed her that the Seṭ was coming from the opposite direction. The Seṭ came, the husband and wife embraced each other, tears of joy trickled over their cheeks, when, lo! the Seṭ changed his dress and he was the Brāhmaṇ who was cheated. The preceptor now showed him the room, the key of which was in his hands, and asked him where had he been all these days: they were very anxious for his safety. Then everyone laughed, and a Bard, who was present, sang:—

Seṭnī hasyo seṭ āyo
Brāhmaṇ hasyo gay dhan pāyo:
Tu keũ hasyo bhikhda bhikhi
Ik kalā main idki sikhi.

The Seṭnī laughs because the Seṭ has come, the Brāhmaṇ laughs because he has lost his property; why are you laughing you monastic beggar? Because I have learned a bit more than I ever knew.

Without the story the Bardic verse cannot be thoroughly enjoyed.

As a specimen of a really Bardic song by one of the best living poets, Mahāmahopādhyāya Kavirāja Murārdānji, I produce this poem which he sent to the Government of India during the Mutiny, and it was circulated to all the faithful regiments:—

Taũlõ mada matta bhaye kuñjara kalola karo।
Jaũlõ vanarāja gāja śabada śunāye nā॥
Taũlõ dindvek laga luvakī lapaṭa calo।
Jaũlõ nabha umaḍa ghumaḍa ghana chāye nā॥
Bhaṇata Murāra taũlõ himake pahāra thir।
Jaũlõ māraṭaṇḍa caṇḍa kiraṇa satāye nā।
Taũlõ dila hila mila mugala mijāja karo॥
Jaũlõ caḍha jañga para Pharañga dala āye nā॥

O elephant, being intoxicated make great noise until the roar of the lion is heard.

O bird, for one or two days flutter in the sky until clouds overcast the sky with thunder and rain.

Murardan says, the snowy mountain shines in its majestic immovability until the midday summer sun acts as its enemy with its fiery rays.

Thus, O Mughals, show your temper with your heart leaping in prosperity, until the British regiments advance in their battle-array.

16. Prayer of Choje Tsang-pa Gyare, called the Religious Wishes. (Ge-jordumpa).

Translated by LAMA DAURSAMDUP.

This long prayer must be said in a spirit of disinterested and pure altruism. Believing all the Gurus, and the Trinity to be attentively listening to and approving one's prayer, and giving their benediction on it, one must say this prayer.

1. By my own merit and that of all other sentient beings, acquired in all the three times, may I be born for the sake of all (comprising those in Nirvana and those in Samsara) in all my future lives, as a free and well-endowed human being (which is a precious boon).

2. In all my future lives, may I be one of the foremost among those of great faith.

3. May I be the foremost amongst the meek.

4. Foremost amongst the zealous and the intelligent.

5 & 6. Foremost amongst those of great aspirations, and of great learning.

7, 8 & 9. May I ever be longlived, free of diseases, and most dignified in appearance.

10 & 11. May I be the foremost amongst the healthy ones and of noble birth; may I be always foremost amongst wealthy ones, and the most liberal amongst liberal ones.

12. May I be foremost amongst the compassionate ones.

13-14 & 15. Foremost amongst the understanding ones, and amongst the persevering ones; foremost amongst the hard-working ones.

16. May I be ever foremost amongst the sweet-voiced.

17. May I ever be foremost amongst the great and the powerful ones.

18. May I ever be born endowed with all the physical signs of perfections and graces, which grace those of a perfect being.

19 May I be ever endowed with the 60 vocal perfections which are possessed by Brahma.

20. May I ever be possessed of a mind well versed in all branches of knowledge, which is the property of a divine-mind.

21. May I ever meet with profound scholars and professors of the Mahayanic Doctrine, as soon as I am born.

22. May I ever be able to please them in the threefold ways.

23. Let me never displease them.

24. Let their threefold benedictions and blessings and virtues of the body, speech and heart, enter into my body, heart and speech completely, and inspire me.

25. Let me ever be initiated into the Priesthood at the feet of Gurus, like the Buddha himself in my youth, in all my future lifetimes.

26. May I ever be able to keep the vows and observances purely and strictly.

27. May I be able to learn, practise and observe all the branches of the Dharma as they should be, in pure spirit.

28. Let me be thoroughly conversant with listening, pondering, and meditating on the Mahâyanic Doctrine in all its branches.

29. In learning, studying and practising the Dharma, let there be no impediments whatever—neither external nor internal.

30. Let me be perfect in the attainment of knowledge.

31. Let me be thoroughly conversant and competent in fulfilling the duties of my line.

32. Let me (the son) be able to fill my Guru's place.

33. Let me be habituated in feeling pity and in contemplating on *Sunyata* (empty space).

34. Let me be able to accomplish my own and others' purposes.

35. Let me obtain Divine inspiration.

36. Let the gloom of Ignorance be cleared up.

37. Let everything, good or bad haps, help me on the path to Buddha-hood.

38. By the merit of these wishes, may I, by the power of great intellect, realize the Eternal Truth.

39. By my great pity, let me not be apathetic to others' pangs and miseries.

40. By great grace let me be able to change others' ideas or minds.

41. By great learning let me be able to implant learning or knowledge in others' hearts.

42. By great experience let me be able to lead others on the path.

43 By knowledge let myself be emancipated, by grace let me able to save others.

44. Let the fields of my spiritual work be developed.

45. Let me be wise in combining circumstances.

46. Let me be free as the sky from fixed assertions and dogmatic beliefs.

47. Let me be habituated in voluntary and in irresistible sympathy.

48. Let the Karmic influences be portrayed in favourable circumstances.

49. Let all selfish motives be eradicated.

50. Let me be able to regard all sentient beings of the six Lokas alike, without any partiality.

51. Let me be able to identify and recognize in the body, speech and mind of all the sentient beings of the three states of existence, the presence of the three Divine principles of the Buddhas of the three times.

52. Let me be able to regard my Guru with the same regard as I would regard a Buddha.

53. And by the merit of this virtue let there be no contraction in my faith.

54. Let me be steadfast in my faith and meekness.

55. Let my belief experience no break, and let me enjoy communion of spirit with my Guru.

56. Let the graces, knowledge and virtue of the Buddha and Gurus enter and inspire me.

57. Let all my faults be purged and let all the virtues be perfected in me.

58. Let me be able to give up all the thoughts of this life.

59. Let my heart be filled with the thought of "no want."

60. Let me be heartily disgusted (with the Samsara).

61. Let my attachment be cut off from the roots.

62. Let my heart be detached from worldly affluence.

63. Let my hands be not engaged in any worldly actions or duties.

64. Let my desires be weaned from Samsaric existence

65. Let not my heart yearn or wish others' enjoyments.

66. Let me be well versed and able to control the meditation of the reversed (process of the evolution of the Nidanas) or involution of the twelve Nidanas.

67. Let me obtain power over counteracting Passions or (impious impulses).

68. Let my heart be thoroughly convinced with the practice of regarding everything in the same light.

69. Let me be able to clip and prune the heads of thoughts of worldly ambitions.

70. Let me be able to bear happiness and sorrows equally.

71. Let trials and tribulations prove my friends.

72. Let all my objective ideas (thoughts) turn out to be some spiritual duty.

Let me get safely over the precipice of hope and fear.

73. Let me be past obstructing, gathering, avoiding and adopting certain ideas.

74. Let all haps and mishaps, whether agreeable or disagreeable, be equally merged in the perception of the Eternal Truth.

75. Let me be acquainted impartially with all the spiritual realms.

76. Let an impartial love to all grow up in me.

77. Let my ideas be filled with my Guru
78. ,, ,, ,, ,, ,, with my Deva (ideal Deity).
79. ,, ,, ,, ,, ,, with the Dharma Kaya.
80. ,, ,, ,, ,, ,, with the Trinity (three-fold Being.)
81. ,, ,, ,, ,, ,, with the Illusory Nature of things.
82. ,, ,, ,, ,, ,, with the Nidanas, dependent nature of things.
83. ,, ,, ,, ,, ,, with the wish-granting gem.
84. ,, ,, ,, ,, ,, with happiness.

85. Let me be able to carry good, bad and middling (circumstances) alike on my head.

86. Let me be habituated in regarding others as fondly as myself, with deep fondness and love.

87. Let me be filled with boundless compassion.

88. Let me be habituated in transcendent Bodhisatwic impulses.

89. Let me know all others as equal with myself.

90. Let me be able to exchange happiness with misery.

91. Let me be able to carry the griefs and pains of others with gladness and joy.

92. Having shouldered them, let me be filled with compassion enough to bear them without grudging.

93. Let me be put on the Path by the doorway of compassion.

94. Let me be able to merge everything equally in the contemplation of Sunyata.

95. Let me be able to find inexhaustible happiness in the existence of pains and griefs.

96. Let me be able to give all my own happiness and ease to others with gladness.

97. Having given them, may they bear fruit, and pervade all sentient beings, even at this very moment.

98. Let the fruit of this gift be such as to rectify all errors and faults, and perfect all the virtues, so that the two purposes might be fulfilled, at once without my seeking it.

99. Let the one prime and sole need be fulfilled in the right time.

100. Let me have steadiness in tranquillizing my mind (in Samadhi).

101. Let me have perfect quiescience in Dhyan.

102. Let me experience and be habituated in the perception of the highest state of the blissful, the clear, and uncognizing state of the mind.

103. Let me obtain the power of fore-knowledge and other boundless siddhic powers of illusion.

104. Let me be able to analyse Intellect to its very root.

105. Let all cognitions appear to me as the Dharmakaya.

106. Let all my faults turn to virtues.

107. Let all my credulous errors turn to divine inner lights.

108. Let me be able to recognize Nirvana in Samsara.

109. Let griefs and pains prove joy to me.

110. Let my crosses prove boons to me.

111. Let me obtain the highest boon of the great symbol (Maha-Mutra).

112. Let me be able to control all mental cognition.

113. Let me be able to keep Karmic connections without any impartiality.

114. Let all those connections prove effective or fruitful of bringing forth useful results.

115. Let all those actions which I might do, or have done to others in the three times, as well as those which others might do, or have done to me in the three times, be they either useful or injurious, let them never bear evil results nor indifferent ones; let all the internal, external and side Karmic influences be cleared off this very moment.

116. Henceforth let no carnality, wrath, sloth, pride or egotism, jealousy or envy, praise-seeking, and desire for fame, nor self-flattery, nor any kind of impious wish or thought, ever come in my mind.

117. Let a powerful wave of the twofold merits be acquired by me without my having to seek them.

118 Let me be a fit vessel to receive the mystic truths.

119. Let me obtain the four kinds of empowering initiations (or baptisms).

120. Let me be able to know the Divine Intuitions.

121. Let me be able to keep my vows purely and faithfully.

122. Let me acquire familiarity in the meditation of the (1) imaginary and the (2) unimaginable (the formless)—(1) Rupa and (2) Arupa, Forms and the Formless.

123. Let me be able to perform the four kinds of divine actions or duties.

124. Let me know the general and the minute laws of Karma.

125. Let me know the logical process of Intellect.

126. Let me know how to adopt virtue and reject sins.

(127-129 left out) } because it is a repetition of some former passages.

130. Let me always be able to pray for great and grand objects, and let my wishes be wide and all-embracing.

131. Let all those wishes bear fruit and prove true during this lifetime.

132. By the power of this merit, may I, in this and in all the lifetimes, be able to perform my duties towards all sentient beings illimitably, and without my seeking it.

133. Let me be able to perform these duties successfully by the path of the six Paramitas.

134. * By the path of the four combinations: (1) charity, (2) sweet speech, (3) model character, and (4) right-practice.

135. * By the path of the four divine lines of Actions: (1) the peaceful, (2) the grand, (3) the loving, and (4) the stern.

136. * By the path of the four illimitables.

137. * By the path of three inculcations or teachings.

138. * By the path of eight siddhis (perfections).

139. * Let me without my being required to seek or hunt for it, be able to perform unbounded good, of all sentient beings.

140. Let me not regard my body or life.

141. Let me be able to accomplish unbounded good for all sentient beings without feeling wearied or having any regret.

142. Even after my death, let my head and limbs, flesh and bones, organs and minor organs, hairs, teeth, nails, blood and secretions, oil and fat exuding from my body, all be of unbounded use and of great service to all sentient beings.

143. May those who are, have been, or will be fond of me, loved me, respected, and believed in me, and who may have prayed or entreated me in any way, or those who have followed me, obtain transcendental knowledge, in their hearts, without the least trouble.

144. Let their experience of the divine inspiration continue in an unbroken current and remain permanently.

145. Let him or them obtain transcendental Samadhi.

146. Let him obtain the Divine and the temporal blessings without seeking for them.

147. Let his own ideas appear to him as the Nidanas and let him obtain Buddha-hood in this very lifetime and with this very body.

148. Let those who have disbelieved in me in the three times, scoffed and reviled at me, dispraised me, and been envious of me, or who have borne me ill-will or tried to quarrel with me, slandered me and abused me, let these go to chasten me of my sins, and wash away the bad Karmic influences of the three times at once at this very moment.

149. Let those who may have wronged me not have to suffer the Karmic effects of their actions, and let not such actions stand in the way of their obtaining Buddha-hood.

150. Let those very persons be converted by me, and let them obtain Buddha-hood in this very lifetime or during one life.

151. Let all those of my friends who have in all my states of existences, helped to put me in the righteous path, obtain all the virtues of a Buddha and obtain Buddha-hood.

152. Let the life-term of my-Gurus (Buddhas) expand as wide as the heavens and last till the cessation of the Samsara, until which event takes place, let them not rest in Nirvana

(in quiescence), but remain active for the sake of sentient beings.

153. Let the scope of their actions increase and expand as infinitely as the heavens, and let them succeed in stirring up and emptying out the holes of Samsara.

154. By the power of this merit, let the teachers and Buddhas of the three times expand their bodies, speech and mind, virtues and actions, life-terms and regions, supernatural powers and divine knowledge, as infinitely as the heavens, and let every one of their wishes be perfectly and successfully fulfilled.

155. Let the faults of those who are, or have been, and will be, entered on the path be thoroughly purged, and let them be endowed with every virtue perfectly.

156. Let all the sentient beings of the three times enjoy happiness, and separated from pains, and let them attain the perfect path and obtain Buddha-hood in one lifetime.

157. Let my body, speech and heart be filled with the holy grace of the Buddhas, and those virtues by which they transcend common beings even this very moment, and let my three-fold principles be perfected.

158. Let me be able to evolve innumerable incarnations of Buddhas, from every pore of my body, constantly and simultaneously.

159. Appearing in benignant and helpful forms before each of the infinite number of beings, existent in the universe, let them immediately win over their regards, confidence, faith and veneration, and let all those who see them be fascinated, charmed, rejoiced and conquered by them.

160. Let those who see me, hear me, recollect me, or touch me in the three times, experience inexhaustible joy, and be ever filled with it, and let their faults be purged at once and let them be perfectly endowed with all good virtues.

161. In brief, let me be able to work out the will of the Buddhas and Gurus, without my seeking for them.

162. Let me be able to do works of vast beneficial influence to all sentient beings, without seeking.

163. Let me be able to perform righteous actions of vast influence.

164. By these merits again let me, in all my lives, obtain the deepest and most profound spiritual knowledge, and Dhyana; let me enjoy an unbroken current of experiences (spiritual).

165. Let me obtain the two-fold boons (the highest and the temporal) even now.

166. Let me be accustomed in compassionating, loving and sympathizing.

167. Let me not have a selfish and self-interested thought even for a moment.

168. For the sake of serving others (sentient beings' benefit) let me be accomplished in compounding eye-medicaments and pills, etc., and obtain the eight Siddhic powers.

169. Let diseases, evil spirits, ignorance and other ill-wills of all sorts subside.

170. Let long life, wealth, affluence, and followers increase.

171. Let kings, queens, ministers and common folks, including beings of all the six lokas, be charmed and fascinated by me.

172. Let those who are inimical to the Guru's person, who lower the regard of the Sacred Trinity, and those who would destroy the faith of the Buddha, and who hurt the bodies of the devotees and yogis—in short, those who would do mischief to all sentient beings—be destroyed or brought to retribution by me.

173. In short, let every one of my acts, be they of the body, speech or mind, let them be ever and only for the good and benefit of all sentient beings.

174. Let me be able to utilize all ideas (inborn thoughts), ignorance, devas and demons, samsaric troubles and miseries, sickness, and death, in the path of emancipation.

175. Let me be able to give up the idea of selfish-existence as an individuality.

176. Let me not regard pains as a fault.

177. Let me not acquire ease for the sake of enjoying worldly name, and fame, etc.—the eight worldly ambitions.

178. Let me be able to subjugate devas and evil spirits.

179. Let me utilize all crosses and interruptions.

180. Let me obtain power over the mind, phenomena, elements, Karma, passions, antidotes to passions, the four combinations, the four divine duties, and over the body, speech and heart. Let me obtain power over the life-term, wealth, dignity, grace, birth, faith, prayer, and Siddhic power of illusion.

181. Let me obtain power over divine knowledge, all truths, the mind and respiration, the Nidanas, and over all beings, human and animals, and over death.

182. By the power of those merits, let me in all my lives never die in any unprepared and undesirable way of dying. Let my death pangs be not long nor excruciatingly painful.

183. Knowing that I am dying, and fully conscious of every circumstance attending it, let me die in a joyful and contented frame of mind.

184. Recognizing the *clear light* even in the first stage of the uncertain state (Bardo) after death, let me obtain Nirvana for myself by absorption in the Dharma-kaya.

185. Obtaining indestructible compassion, for the sake of others, let me obtain the dual personality, by means of which,

let me be able to stir up and empty out the very deepest recesses of Samsara.

186. Should I, however, have the visions of the uncertain state of the intermediary state of existence after death, let me know that state to be the intervening state after death and between rebirth.

187. Let me be able to look without fear on the Person of the Divine Clear Light.

188. Let me acquire the power of recognizing those states or realms as my guardian deities.

189. Let the flames of the clear light burn up all ideas and recollections of materialism.

190. Let the doors of wombs be closed to me.

191. Let me have thorough control over reasoning intellect.

192. Let me after due deliberation choose such a birth which will be useful in the highest degree.

193. Let me be gifted with the six powers of Prescience.

(*a*) Let me have the prescient power of a Deva's eyes.
(*b*) ,, ,, ,, ,, ,, ,, of a Deva's ears.
(*c*) ,, ,, ,, ,, power of recollecting former places in the future.
(*d*) ,, ,, ,, ,, power of knowing others' thoughts.
(*e*) ,, ,, ,, ,, power of knowing when I have attained the power of rendering my supernatural and illusive powers indestructible.

194. Let me be gifted with the five visions or powers of seeing.

(1) Let me have the physical eyes (like those of birds of prey).
(2) ,, ,, ,, ,, Deva's eyes.
(3) ,, ,, ,, ,, Eyes of Truth.
(4) ,, ,, ,, ,, Eyes of a Buddha.
(5) ,, ,, ,, ,, Eyes of Wisdom.

195. Let all phenomena be utilized by me in the Path.

196. Let me utilize Samadhi in the Path.

197. Let me be thoroughly practised in generating physical heat, and let bliss grow in me. Let warmth glow in me. Let my nerves and arteries be easy, and let the respirations be gentle. Let the uncognizing state grow in me.

198. Let the Samadhi of blissful voidness grow up in me.

199. Let me acquire thorough physical intro-vision during the day.

200. Let me acquire the power of consciousness during a dream at night.

201. Let me acquire the clear light. Let me be thoroughly practised in the art of projection (of the mind).

202. Let me be practised in revivifying (the dead).

203. Let me be thoroughly conversant with the Bardo (the intervening state of uncertainty between death and rebirth).

204. Let me be able to analyse the real root of Intellect.

205. By the power of the passive or peaceful Samadhi, let me acquire thorough experience and knowledge of the Infinite (Endless).

206. By the power of the Active or Wrathful Samadhi, let me be able to accomplish stern and wrathful duties (divine).

207. By means of the Grand-Samsdhi, let me be able to shower down objects of desire, such as wealth and riches, etc. etc. like a shower of rain.

208. By means of the Samadhi on Truth (Satwa Dharma) let me be able to control phenomenal appearances.

209. By means of the Samadhi on Zealous, Perseverance or Energy, let me be able to perform successfully whatever I think of doing.

210. Let me obtain the highest (spiritual) as well as the temporal boons.

211. Let me be able to subjugate the Dakinis (who move in the heavens).

212. Let me be habituated in pitying.

213. Let me obtain the state of the All-knowing.

214. Let me be able to destroy or punish all the evil, cruel and wicked ones.

215. Let me be able to subdue all the three Lokas.

216. Let me be able to carry my deeds to successful issues.

217. Let me be wise in combining auspicious events from the worldly point of view.

218. Let me obtain boons in the stern deeds (or deeds of divine retribution).

219. Let the Buddhas' Faith grow evermore and spread widely.

220. Let those who would destroy the Faith be destroyed.

221. Let me be able to open a mine of everything desirable to sentient beings.

222. Let all ignorance and wrong conceptions be cleared away.

223. Let wealth and affluence shower down on me like a constant shower of rain.

224. Let me subdue those whatever are visible and whatever are invisible

225. Let me be able to confound the perverted ones.

226. Let me remember death and the hereafter.

227. Let me be able to renounce this life.

228. Let me be able to clip the eight worldly ambitions.

229. Let me be free from all dogmatic assertions (positivisms).

230. Let my mind be always ready for work.

231. Let my mind be ever ready to be warmed.

232. Let my heart always tend towards the Dharma.

233. Let all my acts ever tend towards religion (Dharma).

234. Let whatever I think, turn out successfully and righteously.

235. Let me never have a single irreligious thought.

236. Being habituated in compassion and love let me be able to accomplish beneficial works as infinite as the expanse of the heavens.

237. By the power of these merits let me in all my lives repel every form of weakness without partiality.

238. Let me be able to visit all hermitages and ascetic retreats without partiality.

239. Let all virtues be born in me without partiality.

240. Let me pity all without partiality.

241. Let me be able to serve all impartially.

242. Let me obtain a clear insight into the Nidanas.

243. Let me be able to see that phenomenal appearances and the *mind* are inseparable.

244. Let me be able to repel the idea that phenomena are real.

245. Let me acquire every wish and fulfil all desires and wishes.

246 Let me obtain everything auspicious and joyful and good.

247. Let all the impediments and obstacles outward, inward, or hidden and Karmic ones, be cleared away from my path.

248. Let wealth, affluence, influence and everything that tends to one's advantage be obtained.

249. Without stinting, grudging attachment or reluctance let me be able to make the threefold gifts successfully.

250. Let the limit of my followers include all the beings of the three Lokas, and let them all be subdued and converted by me.

251. Let the limit of my term of existence be, until the entire Samsara is completely emptied; until then let me ever be working for the benefit of all sentient beings.

252. Let the limit of my proselytizing be such that they consist of the purified and the unpurified; let me be able to reach them all alike on the plane of the developed and emancipated ones.

253. Let the extent of my Realms be the three Lokas, all of which let me be able to subdue.

254 & 255 left out } being repetitions.

256. Let the limit of my energy, understanding and zeal be such in carrying out the purpose of the higher and the lower paths, until the Samsara is completely emptied, that I may

never feel fatigue, worry, vexation, despondence for a moment, but let me ever be full of joy and peace—without break.

257. By the power of these merits, let all the merits acquired in the three times bear fruit in this very lifetime.

258. Let all the fruits or results of my prayers fructify in this very lifetime.

259. Let them again expand as wide as the heavens, and equal the Realms of Truth (Dharmadhatu) and the realms or circle of the Omniscient—who knows all the three times.

260. Let the result of my prayer last until the Samsara gets emptied, and let them ever go in great deeds in the fulfilment of the higher and lower paths.

261. In brief, by the power of these merits, let me be equal in every respect to every one of my lineal canonised Gurus, Devas, Dakinis (movers in Akas), Dharmapals, guardian deities,—devotees, siddhi purushes (saints), Yogis, etc., including even the Buddhas, and Bodhisatwas that existed, does exist, and will exist in the three times and the ten directions.

262. Let me equal them from this every moment in body, speech, mind, accomplishments or virtues, and in deeds, in duration of lifeterm and the expanse of realms,—in the quality of divine deeds, in procreation of beings similar to himself, in wisdom and knowledge, in aspiration and courage, in power and influence, in divine knowledge, in grace and miracles, in prescience and in the extent of the work done.

17. The Persian Autobiography of Shāh Waliullah bin 'Abd al-Raḥīm al-Dihlavī: its English translation and a list of his works.

By

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India is the motherland of many distinguished men of literature and learning who may well be regarded as authorities in divers branches of the Islamic culture. Some of them have excelled even the great savants of Arabia and Persia. Shāh Walīullah of Dihlī is one of them. He was the most celebrated *Muḥāddiṣ* (traditionist) and the most erudite master of Divinity of his time. His Persian autobiography, with a translation and a list of his works, will be of some interest to the students of Arabic literature. His scholarship was so profound that Ṣiddīq Ḥasan Khān of Qannūj in his work *Ithāf al-Nubulā'* remarks about him that "had he been born in the first century A.H. he would have ranked as *Imām al-A'imma wa Tāj al-Mujtahidīn*[1] (the Leader of the Leaders and the Crown of Law givers.")

Autobiography.

Praise be to God who began His gifts before their being deserved and particularized whomsoever He wished with the knowledge and tastes of [His] names, and benedictions and peace be on our Lord Muḥammad adorned with the crowns and girdles of dignities, honoured with varieties and ranges of gifts; and on his descendants and companions through whom the Faith stands [firm] and its market is current. After this the humble one, Walīullah, son of 'Abd al-Raḥīm (may God forgive him and his parents and do good to them and to him), says these few words entitled *Juz'al-Laṭīf fī Tarjamat al-'Abd al-Ẓa'īf* (An elegant Chapter on the Life of the Weak Creature).

Let it be known that the birth of this humble self took place on Wednesday, the 4th of Shawwāl in the 14th year of the 12th century Hijrī near the time of sunrise. Some of the astrologers by the positions of the visibles [heavenly bodies] declared that the star of [my] birth was in the second degree of Pisces, and the sun [had risen] one degree only, Venus was in

[1] Page 428.

its eighth and Mercury in its twenty-first degree, Saturn in the tenth degree of Aries, and Jupiter in its fifteenth degree, and that year was that of the highest conjunction, and it was in the first degree of Taurus, and Mars in its second degree, and the Dragon's head in Cancer. God knows the truth.[1]

Some of the friends found the date [of my birth] in [the name] *Aẓīm al-Dīn* (Eminent in religion = A.H. 1115). My parents (may their hearts be purified) and a number of virtuous [men] noticed many good omens in respect of this poor self both before and after birth.

Accordingly one of [my] affectionate relations and eminent friends has described those occurrences in detail with other events in a pamphlet and named it "*Qaul-i-Jalī*" (Prominent saying). May God give him the best return, and do good to him and to his predecessors and successors, and furnish him with what he wishes in the next world and this.

When the fifth year came I sat in *Maktab* (elementary school), in the seventh year [my] venerable father set [me] up for prayer and ordered [me] to observe Fast. In the same year circumcision was performed, and as far as I remember at the end of this year I finished the much esteemed Qurān, and began to read Persian books and treatises. In the tenth year I was studying "*Sharḥ-i-Mullā*"[2] and the way to *Mutāla'a*[3] (independent study) was to some extent opened to [me]. In my fourteenth year [my] marriage took place, my venerable father having been in a great hurry in this respect; and when excuse of want of necessaries was urged, my father wrote to that purport "there was a secret in haste." The secret afterwards came to light, that is, immediately after [my] marriage the mother-in-law of this poor self died, and soon afterwards [my] wife's maternal grandfather, after that very soon Shaikh Fakhr al-'Ālam, the worthy son of this poor self's maternal uncle, Shaikh Abū Riẓā Muḥammad (may his heart be sanctified), breathed his last. Soon thereafter the mother of this poor self's elder brother, Shaikh Ṣalīḥ al-Dīn. After that very soon my venerable father grew weak and complicated diseases overpowered, him and subsequently the horrible occurrence of his

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1 This expression is usually uttered by the Moslems when they wish to show their want of confidence in any assertion. The writer here as a true Moslem shows that he has no faith in astrology.

2 The title of the book is *al-Fawā'id al Ziyā'iya* but it is known in India by the above name. It is a commentary on Ibn Hājib's (died A.H. 646, A.D. 1248) well-known work on syntax entitled al-Kāfiya. The author of the commentary is 'Abd al-Raḥmān bin Aḥmad al-Jāmī, died A.H. 898, A.D. 1492.

3 *Mutal'a*—It is customary amongst Indian students to go through the lesson previous to attending the lecture of the teacher on the same. The writer here means to say that formerly he could not understand anything independently, gradually he found that while reading the *Sharḥ-i-Mullā* he could grasp its sense to some extent independently.

death took place. This union was totally dispersed and every one came to know that if the marriage had not been celebrated so soon it would have been impossible to come to pass for years thereafter.

It was [in] the fifteenth year [of my age] that I became a disciple of my father and devoted myself to occupations of the *ṣūfī*, specially those of Naqshbandīya[1] saints. With regard to *tawajjuh* (meditation), *talqīn* (instruction), learning the mode of religious rites, and putting on the garment of the *Ṣūfī* I equipped myself and studied a portion of the *Baiẓāvī*[2] the same year. My venerable father had prepared ample food and had invited the gentries and the public and offered *Fātiḥa*[3] (introductory prayers) permitting me to teach others.

However in my fifteenth year I completed my studies in all the current subjects in accordance with the custom of this country. As to *Ḥadīṣ* (Traditions of the Prophet) I studied the whole of *Mishkāt*,[4] and a portion of *Ṣaḥīḥ-i-Bukhārī*[5] up to the Book of cleanliness, and I attended[6] to the reading of the whole of *Shamā'il al-Nabī*[7] by others. As to *Tafsīr* (commentaries on the Qurān) I studied a portion of *Tafsīr-i-Baiẓāvi*[8] and a portion of *Tafsīr-i-Madārik*.[9] Among all the high obligations on my poor self was that I attended my father several times during the reading of the holy Qurān, dwelling on each meaning and the dignity of its descent, and referring to its commentaries. This was the grand opening [of the heart]. Praise be to God. With regard to *Fiqh* (jurisprudence)

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[1] This is an ascetic order of Ṣūfis which was founded by Khwāja Bahā al-Dīn Naqshband. His real name was Muḥammad bin Muḥammad al-Bukhārī. He was born in A.H. 718, A.D. 1318, and died A.H. 791, A.D. 1388. *Vide* Sa'ināt al-Awliyā, p. 78.

[2] The full title of the work is *Anwār al-Tanzil wa Asrār al-Ta'vīl*. It is a commentary of the Qurān by 'Abdullah bin 'Omar al-Baiẓāvī, died A.H. 691, A.D. 1286.

[3] The first chapter of the Qurān. It is customary in Islam to repeat this as a good omen previous to the beginning of each important piece of business.

[4] The author of the work is Walī al-Dīn Abū 'Abdullah Muḥmmad bin 'Abdullah al-Khaṭīb al-Tabrīzī. It was completed on Friday, the last of Ramazān, A.H. 737, A.D. 1336.

[5] The author of this eminent work is Abū 'Abdullah Muḥammad bin Ismā'īl al-Bukhārī, died A.H. 254, A.D. 869.

[6] *Qir'at* and *Samā'at* literally reading and hearing. This refers to the oriental practice in vogue in madrasahs where a competent student reads aloud the text before his tutor and the rest of the students follow him attending in silence.

[7] The author of this book is Abū 'Isa Muhammad bin 'Isa bin Saurah Tirmidhī, died A.H. 279, A.D. 892. It deals with the person, manners and character of the Prophet.

[8] See *supra* note 2.

[9] The full title is *Madārik al Tanzīl wa Ḥaqā'iq al-Ta'vīl*. The author is Hāfiẓ al-Dīn Abū al-Barakāt 'Abdullah bin Aḥmad al-Nasafī, died A.H. 710, A.D. 1310.

I studied the whole of *Sharḥ-i-Wiqāya*[1] and *Hidāya*[2] except a small portion of each; of *Uṣūl-i-Fiqh* (principles of jurisprudence) *Ḥusām*[3] and a portion of *Tawẓīḥ*[4] and *Talvīḥ*[5]; of Logic, the whole of *Sharḥ-i-Shamsīya*[6] and a portion of *Sharḥ-i-Maṭāli'*[7]; of *Kalām* (scholastic theology) the whole of *Sharḥ-i-'Aqā'id*,[8] with portions of *Khayālī*[9] and of *Sharḥ-i-Mawāqif*,[10] a portion only: of *Sulūk* (ṣūfīism), a portion of *'Awārif*[11] and a portion of *Risāla-i-Naqshbandīya*[12] etc.; of *Ḥaqā'iq* (mysticism),[13] *Sharḥ-i-Rubā'īyāt Mawlānā Jāmī* and the introduction of *Sharḥ-i-lam'āt*[14] and *Naqd al-Nuṣūṣ*[15]; of *Khawāṣ asmā'* and *āyāt* (properties of Divine names and verses

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[1] The author of the work is 'Ubaidullah bin Mas'ūd bin Ṣadr al-Sharī'at al-Sānī al-Maḥbūbī, died A.H. 747, A.D. 1346.

[2] The author of this is Burhān al-Dīn Abū al-Ḥasan 'Alī bin Abī Bakr bin 'Abd al Jalil al-Marghīnānī, died A.H. 593, A.D. 1196.

[3] The author of this is Ḥusām al Dīn Muḥammad bin Muḥammad bin 'Omar al-Ḥanafī, died A.H. 644, A.D. 1246. It is entitled *al-Muntakhab fī Uṣūl al-Madhhab* but commonly called *Ḥusāmī*.

[4] It is a commentary on *Tanqīḥ al-Uṣūl*, a text on the principles of Hanafite law, both the commentary and the text are by the same author 'Ubaidullah bin Mas'ūd bin Ṣadr al-Sharī'at al-Sānī al-Maḥbūbī, died A.H. 747, A.D. 1346.

[5] It is a super-commentary on the *Tawẓīḥ* by Sa'd al Dīn Mas'ūd bin 'Omar al-Taftāzānī, died A.H. 762, A.D. 1389.

[6] It is a commentary of Quṭb al-Dīn Muḥammad bin Muḥammad al Rāzī (died A.H. 766, A.D. 1364) on the *Shamsiya*. It is entitled *Taḥrīr al-Qawā'id al mantaqiya fī Sharḥ al-Risālat al-Shamsīya*, but is often simply called *Quṭbī*.

[7] It is a commentary of Quṭb al-Dīn Muḥammad bin Muḥammad al-Rāzī (died A.H. 766, A.D. 1364) on Sirāj al-Dīn Abū al-Ṣanā' Maḥmūd bin Abī Bakr al-Urmavī's (died A.H. 682, A.D. 1283) work entitled *Maṭāli' al-Anwār*.

[8] It is a commentary of Sa'd al-Dīn Mas'ūd bin 'Omar al-Taftāzānī (died A.H. 792, A.D. 1389) on Najm al-Dīn Abū Ḥafṣ 'Omar bin Muḥammad al-Nasafī's (died A.H. 537, A.D. 1142) work entitled *al-'Aqā'id*.

[9] It is glosses on Taftāzānī's (died A.H. 792, A.D. 1389) commentary by Aḥmad bin Mūsa al-Khayālī (died A.H. 860, A.D. 1456).

[10] It is a commentary of Saiyid Sharīf Jurjānī (Alī bin Muḥammad, died A.H. 816, A.D. 1413) on *Kitāb al-Mawāqif* by 'Aẓud al-Dīn 'Abd al-Raḥmān al Ījī (died A.H. 756, A.D. 1355).

[11] The author is Shihāb al-Dīn Abū Ḥafṣ 'Omar bin Muḥammad al-Suhrawardī, died A.H. 632, A.D. 1234.

[12] Probably the author means the work of Muḥammad bin Muḥammad Ḥāfiẓ i-Bukhārī, died A.H. 822, A.D. 1419, in which he collected the sayings of Khwaja Bahā' al-Dīn Naqshband, died A.H. 791, A.D. 1389.

[13] It is a commentary of Nūr al-Dīn 'Abd al-Raḥmān Jāmī, died A.H. 898, A.D. 1492, on ṣūfī Rubā'īs. See Rieu, p. 727a.

[14] It is a commentary on Fakhr al-Dīn Ibrāhim bin Shahriyār 'Irāqī's (died A.H. 686, A.D. 1287, or A.H. 688, A.D. 1289) tract in prose and verse on mystic love by Nūr al-Dīn 'Abd al-Raḥmān Jāmī, died A.H. 898, A.D. 1492.

[15] It is a commentary of Nūr al-Dīn 'Abd al-Raḥmān Jāmī, died A.H. 898, A.D. 1492, on Ibn 'Arabī's (died A.H. 638, A.D. 1240) mystic work entitled *Naqsh al-Fuṣūṣ*.

of the Qurān), a special collection of my father and *Mi'at-i-Fawā' id.*[1]; of *Ṭib* (Medical science), *Mūjiz al-Qānūn*[2]; of *Hikmat* (Philosophy), *Sharḥ-i-Hidāya-i-Ḥikmat*[3] and others; of *Naḥv* (Syntax), *Kāfiya*[4] and Mulla's[5] commentary thereon; of Rhetoric, the *Muṭawwal*[6] and of *Mukhtaṣar-i-Ma'ānī*[7] the portion annotated by Mullā[8] Zāda; and of Astronomy and Mathematics several small treatises. In the meantime sublime subjects came to my mind, and achievement was much more than my exertions.

In the seventeenth year of this poor self [my] father fell ill and retired to the mercy of God in that illness. While on death-bed my father permitted me for *Bai'at* (initiating others in ṣūfiism) and *Irshād* (spiritual teaching) and repeated the expression "his hand is as my hand."[9] The boon that should be counted as the highest is that my father was fully satisfied with me and expired in entire satisfaction. The attention of the father towards this poor self was such that no father cares so much for his child. I never saw a father or a tutor or a priest behaving with such intense kindness towards his issue or pupil as [my] father did to my poor self. Oh God, forgive me and my parents and have compassion on them as they reared me when I was young, and grant them reward for their every affection, kindness and gifts [towards me] hundred thousand times twice. Verily thou art near and accepting.

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[1] It is a treatise on pious charms and remedies. Catalogue of the India Office Library, no. 360.

[2] It is an abridgment of Ibn Sīna's (died A.H. 428, A.D. 1037) work *al-Qānūn* by 'Alā al-Dīn bin Abū al-Ḥazm, commonly called Ibn al-Nafīs, died A.H. 687, A.D. 1288.

[3] It is a commentary on Aṣīr al-Dīn Mufaẓẓal bin 'Omar al-Abharī's (died A.H. 663, A.D. 1264) famous work entitled *Hidāyāt al-Ḥikma*. Two commentaries of this work are taught in India, one is by Mīr Ḥusain al-Maibudhī and the other is by Ṣadr al-Dīn Muḥammad bin Ibrāhīm al-Shīrāzī. Probably the author refers to the second one.

[4] The author of the work is Jamāl al-Dīn Abū 'Amr 'Oṣmān bin 'Omar bin al-Ḥājib, died A.H. 646, A.D. 1248.

[5] See page 162, note 2.

[6] & [7] Sa'd al-Dīn Taftāzānī, died A.H. 792, A.D. 1389, wrote two commentaries on the *Talkhīṣ al-Miftāḥ* by Jalāl al-Dīn Muḥammad bin 'Abd al-Raḥīm al-Qazvīnī, commonly called Khaṭīb-i-Dimishq, died A.H. 739, A.D. 1338. The earlier and larger of these two commentaries is commonly called *al-Muṭawwal* and the shorter is called *Mkhtaṣar al-Ma'ānī*.

[8] His full name was Muḥammad Amīn bin Ṣadr Amīn al-Shirwānī Mulla Zāda. He died A.H. 1036, A.D. 1626. Vide *Khulāṣat al-Āṣār* vol. III, p. 475.

[9] This refers to the religious custom of the Moslems in which the disciple holds the right hand of the spiritual leader between his two hands as a pledge for abstaining himself from all sins; the disciple also having faith that this action conduces to the improvement of his spiritual condition. The author of the sentence, i.e. father of Walīullah, means to say that the same advantage would be gained by the disciples if his son's hand was held instead of his own hand.

After my father's death twelve years more or less I devoted myself to teaching the religious and intellectual books. I went deep in each knowledge and went on attending the holy shrine of my father, and during those days I acquired success in Divinity and openness of heart, as well as a large share and concentration in ṣūfīism; and many many ecstatic discoveries were made.

After perusal of the books of the four religions [1] and the principles of their jurisprudence as well as the Ḥadīṣ that are their authority, the ways of the jurists well versed in traditions, by the help of Divine light, proved acceptable to my mind. After this I felt a longing for visiting the two respectable places of pilgrimage [Mecca and Madīna], and at the end of the year 43, was honoured by Ḥaj; in the year 44, I had the good fortune of becoming a devoted attendant of the honoured Mecca, and of visiting the enlightened Madīna and of attending the narration of the Ḥadīṣ by Shaikh Abū Ṭāhir [2] (may his tomb be sanctified) and by other reverend persons of the holy places. In the meantime I devoted myself to the illuminated shrine of the Lord of mankind, the best prayer and everlasting benedictions be on Him, and received many graces. I had an enchanting association with the learned [men] and other residents of the holy places and put on the all-comprising gown of Shaikh Abū Ṭāhir which may be called to comprehend all the garments of the Ṣūfīs. After performing Ḥaj at the end of this year I turned to my beloved home in the beginning of the year 45 and reached safe and sound on Friday, the 14th of Rajab.

Speak ye of the gifts of God! The greatest gift on me is that I was vested with the robes of invention, and success of subsequent ages were made through my hands. They asked my view in jurisprudence. After collecting this I composed the jurisprudence of [religious] traditions from the [very] beginning; and [I also] explained the secrets of the traditions and the propriety of acts and allurements and all that have been brought by the Prophet (praise and blessings of God be on Him) from God and [which He] taught. It is a science that

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[1] The author refers to the four classes of the Sunnī sect, i.e. *Ḥanafī*, *Shāfi'ī*, *Mālikī* and *Ḥanbalī*. The founder of *Ḥanafī* sect was Imām Abū Ḥanīfa al-Nu'mān bin Sābit. He was born at Kūfa A.H. 80, A.D. 700, and died at Baghdād A.H. 150, A.D. 767. The *Shāfi'ī* sect was founded by Imām Muḥammad bin Idrīs al-Shāfi'ī. He was born at Askalon in Palestine A.H. 150, A.D. 767, and died at Cairo A.H. 204, A.D. 819. The *Mālikī* sect was founded by Imām Abū 'Abdullah Mālik bin Ans. He was born in Madīna A.H. 94, A.D. 716, and died there A.H. 179, A.D. 795. The *Ḥanbalī* sect was founded by Imām Abū 'Abdullah Aḥmad bin Ḥanbal. He was born in Baghdād A.H. 164, A.D. 780, and died A.H. 241, A.D. 855.

[2] His full name is Abū Ṭāhir Muḥammad bin Ibrāhīm al-Kurdī al-Madanī, died A.H. 1145, A.D. 1732. Vide *Insān al-'ain*, p. 13.

none before my poor self demonstrated in stronger words in spite of its sublimity. Should any one be in doubt let him see in the book "*Qawā'id-i-Kubra*" that in spite of such repeated attempts Shaikh 'Izz al-Dīn[1] failed to realize a hundredth part of this science. They also inspired me with the way of ṣūfīism which is obtaining in these days and is in accordance with the wish of God in the present time, and I composed them in two treatises named *Ham'at* and *Altāf al-Quds*. Moreover I established the faith of the ancient Sunnis by proofs and arguments and after purifying it from the impurities of doubts created by logicians, confirmed it in such a way as to leave no room for controversy. And they gifted me with the knowledge of the *Kamālāt-i-arba'a* (the four perfections), viz. the origin, the creation, the development, and the harmony with such amplifications; and the science of all the properties of the human soul, and of the perfection and end of everyone. These two are grand subjects such as none went round it before my poor self. Also the practical science, on which depends the welfare of the age, they have instructed me in its full extent and furnished me with power of strengthening it by "The Book" (al-Qurān), the Traditions, and the Practices of the Companions of the Prophet. They have also granted me the power of distinction between the science of Religion as what has been narrated by the Prophet (blessings and peace of God be on him) and what has been interpolated and put in, and what is *sunnat* (words and practices of the Prophet) and what has been innovated by each caste and creed.

Verse.

If there had been a tongue at every place of growth of my hair,
I could not have been able to repay the due gratitude.

Praise be to God, the Lord of the Universe.

Waliullah died in A.H. 1176, A.D. 1762 and was buried at Dehli.

The following is a list of the most important of his works :—

(1) *Aṭyab al-Nigham fī Madh Saiyid al-'Arab wal 'Ajam*, a *qaṣīda* in praise of the Prophet, rhyming in alphabet "ba," accompanied by a Persian commentary by the author with

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[1] His full name is 'Izz al-Dīn 'Abd al-'Aziz bin 'Abd al-Salām as-Sulamī. He was born in A.H. 577, A.D. 1181, and died A.H. 660, A.D. 1262. Vide Brockelmann's *Geschichte der arabischen Literatur*, vol. I, p. 430.

four other poems of similar nature, lithographed in Murādabād, A.H. 1304 (A.D. 1886).

(2) *al-Durr al-Ṣamīn fī Mubashsharāt al-Nabī al-Amīn*, a collection of forty Traditions of the Prophet with a Hindustānī translation by Saiyid Zahīr al-Dīn Aḥmad, lithographed A.D. 1899.

(3) *Fatḥ al-khabīr*, notes on select passages of the Qurān, lithographed in Lucknow, A.H. 1281 (A.D. 1872).

(4) *Fatḥ al-Raḥmān*, a Persian translation of the Qurān, accompanied with explanatory notes, lithographed in Cawnpore, A.H. 1289 (A.D. 1872).

(5) *al-Fauz al-Kabīr fī Uṣūl al-Tafsīr*, a treatise on the principle to be followed in interpreting the Qurān, lithographed as an appendix of Jāmi' al-Bayān by Mu'īn al-Dīn bin Safī al-Dīn, died A.H. 905 (A.D. 1499) and printed also without mentioning any date on the margin of *Sifr al-Sa'ādat* by Muḥammad bin Ya'qūb al-Fīrūzābādī, died A.H. 817 (A.D. 1414).

(6) *Fuyūz al-Ḥaramain*, a work about the graces which the author received in Mecca and Madīna, lithographed in Dehli.

(7) *Ḥujjat Allāh al-Bāligha*, a systematic book on Muḥammadan theology and ethics, edited with marginal glosses by Muḥammad Aḥsan Siddīqī. It is also printed in two volumes in Bulaq, A.H. 1294 (A.D. 1869) and in Bhopal, A.H. 1286 (A.D. 1869).

(8) *'Iqd al-Jīd fī Aḥkām al-Ijtihād wal Taqlīd*, a treatise on the extent to which private judgment may be lawfully used in theological and legal matters, accompanied by a Hindustānī translation entitled *Silk-i-Marwārīd* by Muḥammad Aḥsan Ṣiddīqī, lithographed in Dehli, A.H. 1310 (A.D. 1892).

(9) *al-Insāf fī Bayān Sabab al-Ikhtilāf*, a treatise on the origin of different schools of Muhammadan jurisprudence, accompanied by a Hindustānī translation, entitled Kashshāf, by Muḥammad Aḥsan Ṣiddīqī, lithographed in Dehli, A.D. 1891.

(10) *Intibāh fī Salāsil-i-Awliyā Allāh*, a Persian treatise on ṣūfīism, lithographed in Dehli, A.H. 1311 (A.D. 1893).

(11) *al-Irshād ila Muhimmāt 'Ilm al-Isnād*, an account of the Shaikhs with whom the author studied, of the teachers from whom they learnt and of those through whom their knowledge had been transmitted from the time of the Prophet downwards, lithographed in Dehli, A.H. 1307 (A.D. 1890).

(12) *Izālat al-Khifā an Khilāfat al-Khulafā*, lithographed in Dehli, A.H. 1307 (A.D. 1890).

(13) *al-Qaul al-Jamīl*, rules for leading a holy life, lithographed with an Urdu translation called *Shifā al-'Alīl*, by Maulavī Khurram 'Alī, lithographed in Bombay, A.H. 1301 (A.D. 1833) and in Cawnpore, A.H. 1313 (A.D. 1895).

(14) *al-Muqaddamāt al-Sanīya fī Intiṣār al-Firqat al-*

Nājiya, a work in scholastic theology, catalogue of the Rāmpūr Library, p. 322.

(15) *al-Musawwā fī Sharḥ al-Muwaṭṭā*, an Arabic commentary on al-*Muwaṭṭā*, catalogue of the Rāmpūr Library, p. 113; catalogue of the Bankipore Library, p. 811; catalogue of Ferangi Mahal Library, Lucknow, p. 39; both the Arabic and Persian commentaries are lithographed together in A.H. 1293 (A.D. 1876).

(16) *Tarjamat al-Bukhārī*, a brief notice of the scope and method of collection of Traditions of al-Bukhārī, entitled *al-Jāmī al-Ṣaḥīḥ*, lithographed in Dehli, A.H. 1307 (A.D. 1890).

(17) *Waṣīqat al-Ākhirat*, another collection of forty select Traditions of the Prophet, accompanied by a Hindustānī interlineary translation, and with the Ninety-nine Names of God, and some religious verses in Hindustānī and Persian appended, lithographed in Lahore, A.D. 1890. The same work with a Pushtū metrical paraphrase by 'Abd al-Ḥalīm Kakā-khel, lithographed in Dehli, A.H. 1380 (A.D. 1891).

Besides the above-mentioned works he wrote many pamphlets on religious subjects.

الجزء اللطيف في ترجمة العبد الضعيف

بسم الله الرحمن الرحيم

الحمد لله الذي بدء بالنعم قبل استحقاقها - و خصّ مَن شاء بمعرفة الاسماء و اذواقها - و الصلوة والسلام على سيدنا محمد المتحلّى بتيجان الكرامات و اطواقها - مكرم بصنوف العطيات و اطباقها - و على آله و اصحابه الذين بهم قيام الملة و رواج اسواقها - امّا بعد ميگويد فقير **ولي الله بن عبد الرحيم** غَفَرَ اللهُ لَهُ وَلِوَالِدَيْهِ وَ اَحْسَنَ اِلَيْهِمَا وَ اِلَيْهِ اين كلمهٔ چند است مسمّى **بالجزء اللطيف في ترجمة العبد الضعيف** -

بايد دانست كه ولادت اين فقير روز چهار شنبه چهارم شوال مقارنِ طلوعِ شمس سنه اربع عشر از قرن دوازدهم واقع شد - بعض اختر شناسان بصناعهٔ نمودارات حكم كردند كه طالع ولادت دوم درجه از حوت بود و شمس درجهٔ در طالع و زهره در هشتم آن و عطارد بست و يكم آن - زحل در دهم درجهٔ حمل و مشتري در پانزدهم آن - و آن سال سالِ قران علويين بوده است - و آن در اول درجهٔ ثور و مريخ در دوم درجهٔ آن و راس در سرطان - وَ اللهُ اَعْلَمُ بِالصَّوَابِ * بعض ياران ١١١٥ھ عظيم الدين تاريخ يافتند - و حضرت والدين قدّس الله تعالى سرّهما وجماعهٔ از صالحان مبشّرات بسيار در حق اين فقير قبل ولادت و بعد ازان ديدند - چنانچه بعض اعزّهٔ اخوان و اجلّهٔ خلّان تفصيل آن واقعات با وقايع ديگر در رسالهٔ مضبوط نموده اند و آن را بقول جلي

مسمّی کرده اند - جَزَاهُ اللهُ خَيْرَ الْجَزَاءِ وَ اَحْسَنَ اِلَيْهِ وَ اِلَى اَسْلَافِهِ وَ اَعْقَابِهِ وَ اَدْخَلَهُ اِلَى مَايَتَمَنَّاهُ مِنْ دِيْنِهِ وَ دُنْيَاهُ - چون سال پنجم در آمد بمکتب نشست - و در سال هفتم حضرت والدِ بزرگوار بر نماز ایستاده کردند و بروزه داشتن فرمودند - و تطهیر نیز در همین سال واقع شد - و چنان در خاطر مانده است که آخر همین سال قرآن عظیم ختم کردم و کتب فارسیّه و مختصرات خواندن شروع کردم - و در سال دهم شرح ملا مي خواندم و راه مطالعه في الجمله کشاده شد - و سال چهاردهم تزوّج صورت گرفت - و در آن معني حضرت والد بزرگوار غایت استعجال کردند - و چون اظهارِ عذرِ فقدانِ اسباب پیش آوردند حضرت ایشان بآن جماعه نوشتند که در تعجیل سرّي هست - و سرّ آن من بعد روشن شد که بعد تزوّج عنقریب ام زوجهٔ فقیر وفات یافت - و بعد ازان عنقریب جدّ زوجه از جانب والده اش - و بعد ازآن عنقریب شیخ فخرالعالم خلف الصدق عمّ بزرگوارِ این فقیر شیخ ابو الرضاء محمد قُدِّسَ سِرُّهٗ بگذشتند - و بعد ازآن عنقریب والدهٔ برادر کلان این فقیر شیخ صلاح الدین قضا کردند - و بعد از آن عنقریب حضرت ایشان ضعیف شدند و امراض شتّی بر ایشان غالب آمد - و بعد از آن واقعهٔ هایلهٔ وفات ایشان پیش آمد - بالجمله این جمعیت ازهم پاشید و معلوم خاص و عام شد که اگر در همان نزدیکي تزوج واقعه نمي شد بعد ازآن سالها امکان نداشت که از قوه بفعل آید - و پانزدهم سال بود که با والد بزرگوار بعیت کردم و باشغال صوفیه خصوصاً نقشبندیهٔ مشایخ مشغول شدم - و ازحیثیت توجّه و تلقین و تعلّم آدابِ طریقت وابس خرقهٔ صوفیه ارتباط درست نمودم - و همان سال طرفی از بیضاوي خواندم -

و حضرت والد بزرگوار طعام وافر مهیا ساختند و خاص و عام را دعوت فرمودند و فاتحهٔ اجازت درس خواندند - بالجمله از فنون متعارفه بحسب رسم این دیار بسال پانزدهم فراغ حاصل شد - از علم حدیث مشکوة تمام آن خوانده شد و طرفی از صحیح بخاري تا کتاب الطهارت - و کمال و تمام شمایل النبي بر حضرت ایشان سماع کردم بقرأت بعض اصحاب - و از علم تفسیر طرفی از تفسیر بیضاوي وطرفی از تفسیر مدارک خواندم - و از جملهٔ مِنَن عظمیٰ برین ضعیف آن بود که چند بار در مدارست قرآن عظیم با تدبّر هرمعاني و شان نزول و رجوع بتفاسیر بخدمت ایشان حاضر شدم - و این معنی سبب فتح عظیم افتاد - و الحمد لله - و از علم فقه شرح وقایه و هدایه بتمامهما إلّا طرفی یسیر از هر دو خوانده شد - و از اصول فقه حسامي و طرفی از توضیح و تلویح - و از منطق شرح شمسیه همه‌اش و طرفی از شرح مطالع - و از کلام شرح عقاید همه اش با طرفی از خیالي - و شرح مواقف طرفی ازان - و از سلوک طرفی از عوارف و پارهٔ از رسایل نقشبندیه و غیر آن - و از حقایق شرح رباعیات مولانا جامي ومقدمهٔ شرح لمعات و مقدمهٔ نقد النصوص - و از خواص اسما و آیات مجموعهٔ خاصهٔ حضرت ایشان و مائة فواید - و از طب موجز القانون - و از حکمت شرح هدایهٔ حکمت و غیر آن - و از نحو کافیه و شرح ملا بر آن - و از معاني مطوّل و از مختصر معاني آن قدر که حاشیهٔ ملا زاده برآنست - و از هیئت و حساب بعض رسایل مختصره - و درین میان سخنان بلند در هر فن بخاطر میرسیدند از کوشش زیاده تر کشاده کار بنظر مي آمد - و سال هفدم از عمر فقیر حضرت ایشان مریض شدند و در همان مرض برحمت

حق پیوستند - و در مرض موت اجازهٔ بیعت و ارشاد دادند و کلمهٔ یَدُهُ کَیَدِیْ مکرر فرمودند • نعمتی که از همه عالي باید شمرد آنست که حضرت ایشان در نهایت رضامندی بر نسبت این فقیر بودند - و در نهایت رضامندي بگذشتند - و توجه ایشان باین فقیر هیچ بتوجه آبا بابنا نمي مانست - هیچ پدری را و هیچ اوستادی را و هیچ مرشدی را ندیدم که به نسبت ولد و تلمیذ خود این قدر دقایقِ شفقت مرعي دارد که حضرت ایشان به نسبت این فقیر داشتند - اَللّٰهُمَّ اغْفِرْلِيْ وَلِوَالِدَيَّ وَارْحَمْهُمَا كَمَا رَبَّيَانِيْ صَغِيْرًا وَجَازِهُمَا بِكُلِّ شَفَقَةٍ وَرَحْمَةٍ وَنِعْمَةٍ عَلٰى مِائَةِ اَلْفِ اَضْعَافِهَا اِنَّكَ قَرِيْبٌ مُجِيْبٌ • بعد از وفات حضرت ایشان دوازده سال کَمَابَیْش بدرس کتب دینیه و عقلیّه مواظبت نمود - در هر علمي خوض واقع شد و توجه بر قبر مبارک پیش گرفت و در آن ایام فتح توحید و کشاد را جذب و جانبي عظیم از سلوک میسر آمد و علوم وجدانیه فوج فوج نازل شدند - و بعد ملاحظهٔ کتب مذاهب اربعه و اصول فقهٔ ایشان و احادیثی که متمسّک ایشانست قرار داد خاطر بمدد نور غیبي روش فقهای محدّثین افتاد - بعد ازآن شوق زیارت حرمین محترمین در سر افتاد و در آخرسنه ثلاث و اربعین بحج مشرف شد - و سال اربع و اربعین بمجاورت مکهٔ معظّمه و زیارت مدینهٔ منوّره و روایت حدیث از شیخ ابوطاهر قدّس سرّه وغیر از مشایخ حرمین محترمین موفّق گشت - دران میان بروضهٔ منوّرهٔ حضرت سید البشر عَلَیْهِ اَفْضَلُ الصَّلٰوةِ وَدَائِمُ التَّحِیَّاتِ متوجه شد و فیضا یافت - و با متوطّنان حرمین از علما و غیر ایشان صحبتهای رنگین اتفاق افتاد - و خرقهٔ جامعهٔ شیخ ابوطاهر که حاوي جمیع خرق صوفیه توان گفت پوشید - و آخر این

سال حج گذارده و اوایل سال خمس و اربعین متوجه وطن مالوف شد - و روز جمعه چهاردهم رجب در کنف صحت و سلامت بوطن رسید • وَ اَمَّا بِنِعْمَةِ رَبِّکَ فَحَدِّثْ نعمت عظمیٰ برین ضعیف آنست که او را خلعت فاتحیّت داند - و فتح دورهٔ بازپسین بر دست وی کردند - و ارشاد فرمودند که مرضي در فقه چیست - آن را جمع کرده فقه حدیث از سر بنیاد کرد - و اسرار حدیث و مصالح احکام و ترغیبات و سایر آنچه حضرت پیغامبر صَلَّی اللّٰهُ عَلَیْهِ وَسَلَّمَ از خدای تعالیٰ آورده اند و تعلیم فرموده‌اند بیان کرد - و آن فنی است که پیش ازین فقیر مضبوط تر از سخن این فقیر کسی آن را ادا نکرده است باوجود جلالت آن فن - اگر کسی را درین حرف شبه باشد گو کتاب قواعد کبریٰ به بین که شیخ عزالدین آنجا چه جهدها کرده بعشر عشیر این فن فایز نشده - و طریقهٔ سلوک که این زمان مرضي حق است و درین دوره فایز مي شود الهام فرموده اند - آن را در دو رساله ضبط کرده بهمعات و الطاف القدس مسمّیٰ نمود - و عقاید قدماي اهل سنت بدلایل و حجج اثبات کرد و آن را از خس و خاشاک شبهٔ معقولیان پاک ساخته بوجهی مقرر نموده که محل بحث نماند - و علم کمالات اربعه یعنی ابداع و خلق و تدبیر وتدلّی با این عرض و طول - و علم استعدادات نفوس انسانیه بِجَمِیْعِهَا و کمال و مآل هر کسی افاضه فرموده‌اند - و این هر دو علم جلیل اند که پیش ازین فقیر کسی گرد آن نگشته - و حکمت عملي که صلاح این دوره در آنست بوسعتی تمام افاده نموده اند و توفیق تشیید آن بکتاب و سنت و آثار صحابه دادند - و بر تمییز آنچه علم دین است منقول از حضرت پیغامبر صَلَّی اللّٰهُ عَلَیْهِ وَسَلَّمَ و آنچه مدخول است

و محرّف و آنچه سنت است و آنچه هر فرقه بدعت کرده است افاده ساخته •

• بیت •

وَلَوْ اَنَّ لِيْ فِيْ كُلِّ مَنْبَتِ شَعْرَةٍ • لِسَانًا لَمَا اسْتَوْفَيْتُ وَاجِبَ حَمْدِهٖ

اَلْحَمْدُ لِلّٰهِ رَبِّ الْعَالَمِيْنَ

18. Simhāchelam Temple.

By S. P. V. RĀMĀNUJASWĀMI, *Vizagapatam*.

The temples in the Telugu country which are most frequently visited by pilgrims are three, viz. *Śrīkūrmam*, *Simhāchelam* and *Tirupati*. These three temples are Vaishṇava ones at the present day. Ramanuja, the great Vaishṇava teacher, is said in the *Guruparamparāprabhāvam* to have visited these three temples and spent some time at each of them. And it is also said that *Śrīkūrmam* and *Tirupati* were originally Śaiva temples and that Ramanuja converted them into Vaishṇava temples. But nothing is said about *Simhāchelam*.

Simhāchelam (lit. the lion-hill) which rises to about 800 feet above the sea, stands 6 miles north of Vizagapatam. Near the top of the north side of it, in a wooded hollow, surrounded by a wide circle of higher ground, is a temple to Yagñavarāha, the boar incarnation of Vishṇu. Some mistake the temple to be dedicated to Narasimha, the man-lion incarnation of Vishṇu.[1] The image in the temple possesses the head of a boar, the trunk and limbs of a man with a tail like that of a lion. In the inscriptions found in the temple, the god is referred to as *Yagñavarāha* and *Simhādrinātha*.[2] It is perhaps this latter epithet that led many into the wrong notion and that is also responsible for the popular tradition that the god is Varāha Lakshmi Narasimha. *Simhādrinātha* used in the inscriptions as an epithet of Yagñavarāha simply means that the god is "the owner or master of Simhādri or lion-hill." The hill is called the "lion-hill" not on account of the fact that Narasimha is upon it, but owing to its fancied resemblance to a lion—the hill is broad at either end and slender in the middle. If the temple of a god is situated on the summit of a hill, it is usual to name the god after the hill and not *vice versâ*.[3] So the real god at Simhāchelam is VARĀHA or YAGÑAVARĀHA, and since the hill is called Simhāchelam or Simhādri, he is referred to a Simhādrinātha. More-

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[1] cf. W. W. Hunter, *Imperial Gazetteer of India*, and Mr. Francis, *Vizagapatam Gazetteer*.

[2] He is also sometimes referred to as *Narasimha*. But this I think is through mistake, as the image possesses a TAIL. But why should a Varāha image possess the tail of a lion ?

[3] e.g. the god at Tirupati is called *Seshādrinātha* because the hill is called the Śeshādri (serpent-hill). The god at Conjeevaram is called *Hastigirināṭha*, because the hill on which the temple of the god is situated is called Hastigiri (elephant-hill). Similarly with the god at Jagannātham or Pūri.

over, any person who has seen the god on the day of *Chandanayātra*, will never mistake it—but for the tail the origin of which is unknown—for Narasimha. It is clearly an image of Varāha (boar).

This temple is the most famous, richest and best sculptured one in the Telugu country. From the hollow in which it stands runs down a deep glen watered by a rivulet and clothed with many trees in striking contrast to the bare flanks of the rest of the hill. The way to the temple runs along this glen, through terraced fields of pineapples, dotted with mango, jack and other trees. It passes up a broad flight of well-kept stone steps, over a thousand in number, on either side of which trees have been planted to give shade and a rill runs in a channel to refresh weary pilgrims. At frequent intervals are images of various Hindu gods in little niches, and on festival days the steps are lighted from top to bottom. At the narrow mouth of the glen is a bold portal called *Hanumān's Gate*, by the side of which the said rivulet is led into two pools where pilgrims bathe before they continue the ascent. Passing through *Hanumān's Gate*, the pilgrim traverses the remaining narrow part of the glen where the rivulet is led through pipes and channels over several artificial cascades surrounded by more sculptures of the gods and at length reaches the amphitheatre, in which, on a terrace partly cut out of the hill-side, stands the temple itself.

Architecturally the temple deserves high praise. It contains a square shrine surmounted by a high tower, a portico in front with a smaller tower above it, a square sixteen-pillared maṇḍapam (called the Mukhamaṇḍapam) facing this, and an enclosing verandah, all made of dark granite, richly and delicately carved with conventional and floral ornament and scenes from Vaishṇava purānās. Much of the carving is mutilated and much more has been covered over with thick coat of plaster. In the verandah is a stone-car with stone wheels and prancing stone horses. The image of the god is small and is kept covered with an unctuous preparation of sandal paste. Once a year, in May, this is removed with much ceremony at the festival called *Chandanayātra*.

Outside the inner enclosure there is little worthy of note, except the excellent *Nātyamaṇḍapam* on the north side of the temple where the god's marriage is performed. This is supported by 96 pillars of black-stone which are more delicately carved than any other in the temple, are all different in the details of their design, and yet avoid incongruity of effect by adhering to one general type, especially in their capitals, which are usually of the inverted-lotus shape.

When I went to Simhāchelam once, I could see only the inverted U-shaped appearance of a large quantity of sandal paste. It at once suggested to me whether it might not be

a Śaiva temple at some time and that the god is made to assume that shape as a compromise between the two rival sets when—it may be possible—the image was transformed into a Vaishṇava one. So the appearance of the image might have something to do with its origin, I thought. When I expressed my opinion to a friend of mine, he suggested to me that Ramanuja might have been the man that changed it into a Vaishṇava image. But when I considered the question deeper, I came to the conclusion that Ramanuja could not be the man who effected the change for the following reasons.

Simhāchelam was a Vaishṇava temple for a very long time. The temple is full of inscriptions. I examined some 105 of them which range from 1186 to 1526 Śaka. Even at the time of the earliest of these inscriptions, the god seems to have commanded such awe and reverence as would be done by a temple of long standing. Moreover, it is said, in the *Vizagapatam Gazetteer*, that there is an inscription of Kulottunga I. in the temple, dated 1089-90 A.D. So it must have been a place frequently visited by people even then. Ramanuja flourished in the 11th century, and the inscriptions belong to the same and the 13th century. It seems to me that a temple instituted in the 11th century could not be held in such reverence, as is shown in the inscriptions, in the 11th century itself—in the lapse of about 30 years. I therefore conclude that it was a Vaishṇava temple at or even before the time of Ramanuja.

There was Vaishṇava influence at Tirupati even before Ramanuja but he established that influence firmly there. And Śrīkūrmam, originally a Śaiva temple, he transformed into a Vaishṇava one. This fact is stated in the *Sthalamāhātmya* of Śrīkūrmam. Now Ramanuja was a very orthodox Vaishṇava. He would not interfere with a god unless there is precedent for him. When he came to these parts, he saw that Simhāchelam was the only Vaishṇava temple in the country, and it is probable that there was current a tradition—now lost—that Simhāchelam was formerly a Śaiva temple and that somebody afterwards transformed it into a Vaishṇava temple. Ramanuja might have heard the rumour, and seeing that there was only one Vaishṇava temple to support his cause, thought of transforming the other two also into Vaishṇava ones.

This seems to me to be the real history of Simhāchelam temple. But one may ask what authority have we to suppose that there was a tradition at the time of Rāmānuja that Simhāchelam was once a Śaiva-kshetra ? for supposing that it was a Śaiva-kshetra at all at any time ? The following few facts go—very strongly in my opinion—to prove that Simhāchelam was once a Śaiva-kshetra and was afterwards changed —not exactly known when—into a Vaishṇava one.

Firstly.—*The position of the image.* Usually in all Vaish-

ṇava temples the image of the god will be set not in the centre, but considerably to the back, though not completely to the back of the innermost enclosure called the *Garbhagriha*. There will be some space to the back of the image before the wall for *pradakshiṇam*. Before the god will be placed some other images usually in copper, including the *Utsavar*,[1] and before these are placed the vessels employed in *pūja*, etc. In front of all these there will be a space pretty larger than that left to the back of the image. But at Simhāchelam the case is quite different. The image of the god occupies a place almost to the centre of the apartment. The space to the back of the image is not utilized for any purpose other than that of performing *pradakshiṇam*, for to a Vaishṇava image *pūja* from the back is strictly forbidden. But everybody knows that in a Śaiva temple, the image of the *lingam* occupies the centre of the room and *pūja* is performed from all sides, since there is no distinction of front and back to the *lingam*. Again, excepting some recent temples where the *Utsavar* images are introduced on analogy with Vaishṇava ones, there will be no *Utsavar* images at all in a Śaiva temple to be placed in the *Garbhagriha*. And the *Utsavar* images at Simhāchelam are not placed in that apartment at all. They are placed in another room quite distinct from the first, thus showing that they are of later origin.

Secondly.—*The shape and size of the image.* The shape of the image is very characteristic. The head is that of a boar. The trunk and limbs resemble those of a man to a greater extent. The image possesses also a long tail like that of a lion. The sculpture of the image is very rough. There are no details. The face is discernible with neither eyes, nose nor mouth. The two hands and legs are represented by two pairs of rod-like masses. Neither the fingers, nor the elbow-joints, nor the knees are perceptible. The feet are non-existent and are supposed to be below the surface of the earth. These facts suggest that the image was not prepared outside the temple and that the sculptor had not free use of the stone at which he was working. For if he had, the details would have been better marked. Simhāchelam is the only place where we have such a peculiar image. Originally it might have been an image of the *lingam* and subsequently people might have begun to make an image of Vishṇu out of it. Since the *lingam* was fixed in the ground, the sculptor could not shape a good figure out of it. Again in shaping the figure the

[1] The *Utsavar* images are those which are taken out of the temple on festive occasions. Every temple contains two sets of images. The one set made of stone is not allowed to be removed out of the *Garbhagriha*. The other set can be taken out. It is not necessary that the *Utsavar* images and the other set of stone images should be of the same god.

forgerer naturally began from above, and when he reached the bottom, he found that the stone was too short to allow room for the feet in proportion to the rest of the body. He, therefore, left off the feet and said that they were under the floor. This fact recalls to my mind a ludicrous story about Tenāli Rāmakrishṇa when His Majesty ordered him to make paintings upon the walls of his house.

Moreover, it has been remarked above that the image of the god is small. An examination of some of the Vaishṇava temples in Southern India convinces us that the image at Simhāchelam is small *in proportion to the size of the temple.* The images in temples even smaller than that at Simhāchelam will be considerably bigger than that of *Yagñavarāha.* But if it had been a *lingam* of that height, it would be big enough for so great a temple.

Thirdly.—*The usual appearance and contact of the image.* As has been said above, the image of the god will not be always visible. It is covered with sandal paste. So the appearance of the image at all times, except on the day of *Chandanayātra*, is that of a *lingam.* When the temple was changed into a Vaishṇava one the Śaivas seem to have objected to the procedure. Then a compromise was effected between the two parties by making the god assume the form of a *lingam.*

Again in no Vaishṇava temple at any time is the image of the god allowed to be touched by ordinary people. But in the Śaiva temple, the *lingam* is allowed to be touched by all people. And at Simhāchelam, too the image of the god when it is visible on the day of *Chandanayātra* is allowed to be touched by all people. This privilege at Simhāchelam suggests that it was a Śaiva temple at one time. Though the people changed the *lingam* into an image, they could not stop the popular custom of touching the image.

Fourthly.—One of the inscriptions at Simhāchelam, of which the temple is full, refers to a *Bhairava Dvāra* or Gate.

.....तम्मुमोदलिंगारि कुमारुंडु कूर्ममोदलि भैरवद्वारानु हनुमंतुनि प्रतिष्ठचेसि.....[1]

Bhairava is one of the followers of Śiva. And it is only at a Śaiva temple, therefore, that we can expect Bhairava's Gate. Since *Bhairava* is the chief of *Pīdas* and *Pisāchas* the

[1] The inscription is written in Telugu language and characters. It is dated 1457 Śaka. The quotation means " . . . . . Kūrma Modali, son of Tammu Modali, having instituted (an image of) Hanumān at Bhairava's Gate . . . . . " So we can without any doubt say that the present Hanumān's Gate was the Bhairava Dvāra of the inscription. This image of Hanumān might have been the cause of the change of the name of the gate, for it appears that the gate was till then called Bhairava's Gate though the temple was Vaishṇavized.

gate may be identified with the present Hanumān's Gate, where even at present hundreds of people are supposed to be relieved from evil spirits which were haunting them. This is one of the strong arguments for saying that Simhāchelam was once a Śaiva temple. If it was really a Vaishṇava temple from the beginning dedicated to *Yagñavarāha*, the boar incarnation of Vishṇu, what business has Hanumān's Gate to be on the same hill? There is no connection between Varāha and Hanumān. They belong to different ages. What actually took place might have been this. When the temple was a Śaiva one, the gate was called *Bhairava Dvāra*, and ghosts, etc., were supposed to be got rid of there. But when the temple was transformed into a Vaishṇava one, the Vaishṇavas wanted to change the name of the gate as well. But the new deity to which they dedicate it must be such as had control over evil spirits, for though they changed the name of the gate, they could not, they knew, banish the belief from the minds of the people that relief from evil spirits was got there. So they hit upon the name of Hanumān and named the gate after him, but did not stop to consider whether there is any connection between Varāha and Hanumān. When taken by itself each is legitimate, the Varāha image at the top of the hill and the Hanumān's Gate down below where relief from evil spirits is obtained. But when they are taken in conjunction with one another they make no sense; the two demigods belong to different Yugas. The name of Hanumān's Gate itself, therefore, gives support to the view that Simhāchelam was once a Śaiva-kshetra.

Fifthly.—The last and strongest argument is furnished by the *Dhyānaśloka* of Yagñavarāha of Simhāchelam.

कुन्दाभसुन्दरतनुः परिपूर्णचन्द्रबिम्बानुकारिवदनो द्विभुजस्त्रिनेत्रः ।

प्रान्तस्त्रिभङ्गिललितः क्षितिगुप्तपादः सिंहाचले जयति देववरो नृसिंहः ॥[1]

In this the qualifying word त्रिनेत्र is attributed to the god. What are we to understand when this indisputable attribute of Maheśa is given a place in the *Dhyānaśloka* of a Vaishṇava god? This also is introduced, I opine, to satisfy the rival sect when they were robbed of their temple.

These considerations gave support to my suggestion that Simhāchelam might have originally been a Śaiva-kshetra and that it was subsequently changed into a Vaishṇava one. When such a distinguished action as this is done, it is probable that it will be in everybody's mouth for some time at least. So it might have been at the time of Rāmānuja.

This is what I think to be the real account of what

[1] This stanza is taken from the *Kshetramāhātmya* of Simhāchelam. In this also the god is named Narasimha, but upon what grounds is not known.

happened at Simhāchelam. I cannot assert it, for every argument rests on probability. I only make a suggestion. If anything contrary to my suggestion is brought forward to prove that all the details which I enumerated above form a case of mere accidental coincidence, then I gladly withdraw my suggestion.

19. Father A. Monserrate's Account of Akbar (26th Nov. 1582).

Translated and Edited by Rev. H. Hosten, S.J.

Father Anthony Monserrate was Blessed Rudolph Aquaviva's companion during the first Jesuit Mission to Akbar's Court. They had left Damān for Surat on 13th Dec., 1579, and arrived at Fatḥpūr Sīkrī on 27th Febr., 1580. Monserrate, who had taken ill at Narwâr, reached a week later on March 4th.[1] In February 1581, Akbar took the field against his brother, the Amīr of Kābul, who had invaded his territory as far as Lāhor. Monserrate accompanied the expedition as tutor to the Emperor's second son, Prince Murād. From beginning to end the campaign was a triumphal march. Mīrzā Muḥammad Ḥakīm kept beating a retreat before his brother, and no serious resistance was anywhere encountered. When Akbar appeared before Kābul, it was empty. Muḥammad Ḥakīm had absconded in the mountains. The expedition lasted till the end of 1581, when Akbar was back at Fatḥpūr and ordered the *Nau-roz* (March of 1582)[2] to be celebrated with unprecedented splendour. About April 1582, Akbar prepared to send an embassy to the King of Spain and Portugal, and to the Roman Pontiff. Monserrate accompanied the ambassador, and arrived at Goa, at the end of September (?). They did not go further. Only one ship was to sail for Portugal that year, and it was already crowded. It was, therefore, proposed that the ambassador should wait till the next year. Shortly after, it was rumoured that Akbar had been killed, and the ambassador returned to Fatḥpūr.[3] In the beginning of 1583, Bl. Rudolph Aquaviva, the only Jesuit left at Fatḥpūr, was recalled to Goa by his superiors, because the main object of the Mission, Akbar's conversion, had long appeared to be a hopeless task.

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[1] Cf. de Sousa, *Oriente Conquistado*, II, Conq. I, D. II, §§ 46, 59 and *J.A.S.B.*, 1904, p. 51 *n.* 2. If du Jarric says (*Hist. des choses plus memorables*, II, p. 441) that the Fathers arrived on Febr. 18th, the difference must be due to the change from the Old to the New Style.

[2] The *Ṭabakāt-i-Akbarī* (Elliot's *Hist. of India*, v, 427) says that the *Nau-roz* corresponding with Tuesday, 27th Ṣafar, 991 (1582, not 1583, as Dowson has it) was celebrated by a festival of 18 days' duration.

[3] Cf. D. Bartoli, S.J. *Memorie Istoriche*, Torino, 1847, Lib. v, p. 185.

In compliance with the instructions of the Provincial of Goa, Monserrate had kept a diary during his stay of two years and a half in Mogor. Between 1582 and 1588 he was busy casting and recasting it into a connected narrative, to be entitled *Mongolicæ Legationis Commentarius*. When in February 1589 he was sent to Abyssinia, he took his MS. with him, in the hope of completing it in his new mission-field. The next year, he was a prisoner at Dhafar, in Arabia.[1] In the beginning of his captivity, which lasted six years and a half, he was honourably treated, and was even allowed to complete his writings. His *Commentary* on his experiences in Mogor was finished in his prison at Sanaa, in Arabia, on the feast of St. Damasus, December 1590. Ransomed, at last, in August 1596, he had returned to Goa in Dec. 1596,[2] bringing back with him his MS. and materials for two works on Arabia. Somehow, his *Mongolicæ Legationis Commentarius* was never sent to Europe. In some strange mysterious manner, the autograph copy, transcribed within the prison walls of Sanaa, found its way to Calcutta in the beginning of last century, and after passing successively through Fort William College, the Calcutta Metcalfe Hall Library, and the Imperial Library, it was discovered in 1906 by the Rev. W. K. Firminger in the Library of St. Paul's Cathedral Library, Calcutta. I am now preparing it for publication in the original Latin.[3] It is a most valuable work, apparently a unique copy of the earliest known description of North India by a European since the days of Vasco de Gama.

An abstract from Monserrate's diary met, however, with more success. Several copies of it had been made at Goa in 1582, and had been sent through different directions to Europe. Some of them reached their destination. A photographic copy of one of these, dated Goa, 26th Nov. 1582, was lately sent me by a confrère in Europe. I publish it here in Portuguese, and in translation. It is entitled *Relaçam do Equebar, Rei dos Mogores*, 'An account of Akbar, King of the Mogores,' covers pp. 7¼ foolscap, and was sent "2ª *via*." How many copies of it were made at Goa, or how many in Europe, it is impossible to say. The copy before me is unsigned, and the writing is not that of Monserrate. Certain orthographical mistakes warrant me to suppose that the copyist felt occasionally puzzled. From the acquaintance I have made of Monserrate's *Mongolicæ Legationis Commentarius*, there is, however, no doubt that, if Monserrate did not himself draft the *Relaçam*, it was derived from his diary, generally word for word.

At least one other copy of this *Relaçam* reached Europe. Prince Frederic von Schleswig-Holstein (Graf von Noer) wrote

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[1] Cf. DU JARRIC, *Histoire des choses . . . . .*, II, Ch. xx, 231-236.
[2] On Dhofar or Dhafar, cf. E. RECLUS, *L'Asie Antérieure*, p. 905.
[3] Cf. *The Englishman*, Calcutta, Febr. 6, 1912.

in 1880: "An excellent report (anonymous) dated from Goa, Nov. 26, 1582, is in my hands. It describes the state of things at Akbar's Court, and is a copy from the Spanish Archives obtained by the good offices of Don Pascual de Guayangos." [1]

Count von Noer's copy may still be in existence. That of the Spanish Archives appears to have been lost. "When I was at Madrid," writes Sir Clements R. Markham, "Don Pascual de Guayangos gave me a copy of a very interesting Spanish manuscript by an anonymous missionary (probably Aquaviva) who describes the personal appearance and habits of Akbar. It was left at the Asiatic Society, before Mr. Vaux's time, and was mislaid. Don Pascual has also mislaid the original, so that the loss is irremediable." [2]

From the quotations made by Count von Noer regarding the Kābul campaign, I concluded in 1907 that the "excellent anonymous report" was the work of Monserrate. This point is now placed beyond doubt.[3]

Markham was mistaken, if he thought that copies of the MS. which he obtained from the Spanish Archives had never been utilized before. We find Monserrate's *Relaçam* quoted in a number of ancient works; but, it is probably due to the fact that the copies were not signed that the name of the author remained unmentioned and unknown.

As far as I know, the first who availed himself of the document which we now publish was Padre Gio. Battista Peruschi, S.J.[4] He reproduces it *in extenso*, but disposes the materials somewhat differently. His copy must, however, have been more elaborate than mine. It contains occasionally more detailed information, which could have come from Mogor only, the only sources mentioned (cf. *Peruschi*, p. 5) being letters of Mogor, dated 1582 and "1592" [1595 ?].

Father Luis de Guzman, S.J., was the next to make use of Monserrate's *Relaçam*, and it will be evident, on examination, that he did not translate Peruschi, but had either a Portu-

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[1] Cf. COUNT VON NOER, *The Emperor Akbar*, translated and in part revised by Annette S. Beveridge, Calcutta, Thacker, 1890. Vol. I, pp. 331-2. Von Noer's *Kaiser Akbar* had appeared in 1880 or 1881.

[2] Cf. DR. P. A. S. VAN LIMBURG-BROUWER, *Akbar: An Eastern Romance*, translated from the Dutch by M. M. With notes and an introductory life of Akbar by Clements R. Markham. London, Allen, 1879, p. xxxi.

[3] Cf. VON NOER, *Kaiser Akbar* (1880), Vol. II. pp. 11-12, 77-78, 81-82; 97-98. Also: *Jesuit Missions to Emperor Akbar*, by E. D. Maclagan, in *J.A.S.B.*, 1896, p. 47, and my *Jesuit Missionaries in North India and Inscriptions on their tombs, Agra* (1580–1803), Calcutta, Catholic Orphan Press, 3, Portuguese Church Street, 1907, p. 7.

[4] Cf. *Informatione / del Regno, / e Stato del gran Rè di Mogor, / della sua persona, qualita, / e costumi, e delli buoni segni, e congietture / della*

guese or Spanish copy at his disposal. The extracts in his work are much shorter.[1]

Fr. Pierre du Jarric, S.J., made copious extracts from Peruschi's *Informatione del Regno...di Mogor.* This is evident from the faulty spelling of the proper names in both. The whole of Chapter viii of Livre IIII, *Seconde Partie de l' Histoire des choses plvs memorables advenues tant ez Indes Orientales . . . .*, Bovrdeavs, Millanges, 1610, pp. 429–438, is thus based on Monserrate's authority.[2] (Latin edn. Coloniæ-Agrippinæ, 1615, II, Lib. II, C. VIII, pp. 492-501.)

Purchas' *His Pilgrimage* will be found to contain several passages from the *Relaçam* quoted through Peruschi or du Jarric.[3]

Father Francis de Sousa's account of the first Jesuit Mission to Mogor[4] has little in common with Peruschi's *Informatione.* If he had a copy of Monserrate's *Relaçam*, he did not make much use of it.[5] Though he wrote at Goa, it would seem, too, that he did not utilize Monserrate's MS. *Mongolicæ Legationis Commentarius.* His account of Monserrate's and Aquaviva's journey from Surat to Fatḥpūr in 1580 is not taken from it, but probably from letters written at the time by Monserrate and preserved in "Nossa Secretaria de Goa." He quotes, *e.g.*, a MS. History of Padre Sebastiaõ Gonçalves.[6] (Cf. *Or. Conq.*, Vol. I, Introd.).

Greatly inferior as was Monserrate's *Relaçam* to his *Mongolicæ Legationis Commentarius*, it was none the less, in default of the latter, a most important document, and it is still sufficiently valuable to justify us in publishing it. It

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ua conversione alla nostra / santa Fede. / Cauata dalla relatione, e da molti particolari / hauuti daquelle parti /../. / In Brescia, / Appresso Pietro Maria Marchetti, 1597. /—I have also the Latin translation: *Historica Relatio de Potentissimi Regis Mogor..*, Moguntiæ, 1608. The *Relaçam* will be found utilized at pp. 5–31 of the Italian edition.

[1] Cf. *Historia de las Missiones que han hecho los Religiosos de la Compañia de Iesvs.* Alcala, 1601, Vol. I, Chapters xxxvi–xxxviii.

[2] I may state here as a bibliographical curiosity that the "Seconde Partie" of the Bordeaux edn. in 3 volumes (1608, 1610, 1614) was republished twice at Arras in 1611, "chez Gilles Bauduyn, au coing / du marché, a la fontaine, / M.D.C.XI," and by Guillaume de la Rivière. There is also an edition of Valenciennes, chez Jean Vervliet, MDCXI. The pagination of these three editions is identical. Father C. Sommervogel, S.J., was imperfectly acquainted with some of these editions.

[3] Cf. *Purchas his Pilgrimage*, London, 1625-26. Pt. IV, Bk. V, Ch. 6, § 3, p. 512. In J. Talboys Wheeler's *Early Travels in India*, Calcutta, 1864, cf. pp. 14–24.

[4] Cf. *Oriente Conquistado*, Lisboa, MDCCX, Vol. II, C.1, D.2. §§ 43–46, 53–63.

[5] Cf. *ibid.* § 63.

[6] Only the first 5 books of Pt. I of Padre Sebastiaõ Gonçalvez' History are in the private Royal Library of Lisbon $\frac{55}{55}$. The whereabouts of the rest are not known. Cf. *Monumenta Xaveriana*, Madrid, 1899–90, I, xxiv.

will be found to shed light on Monserrate's *Commentarius*, though, on the other hand, it must itself be elucidated generally by means of his larger work.

We have reproduced the Portuguese text as faithfully as possible, not omitting any of its peculiarities and inconsistencies of spelling.

Mr. H. Beveridge, I.C.S. (retired), kindly went through the proofs of our article, and favoured us with a number of valuable corrections and notes.

Ex "Goan. Malab. Epist. 1580–89 (*Goa.* 13)"
Ex MSS. Soc. Jesu.

Account of Equebar, King of the Mogores.

Mahamed Zelaldim Equebar, commonly called King of the Mogores, is the sixth descendant of Tamorlam, the same who seized Bayazet [Bajazet, Bāiazīd] by stratagem, and carried him about in a cage, as long as he lived.

This is his genealogy : Mir Timur Lâng, Miranxâ, Abuçaij, Ommarxâ, Qhanmirsâ, Baburxâ, Emmaûpadxâ, Zelaldim Equebarxâ.[1]

By nationality and country he belongs to Chaquata [Chaghata].[2] These are Turks, not Tartars or Parthians [Persians], as some believe. The popular language of the country is Turkish ; yet, it differs from that spoken by the Turks.[3] At court they speak Persian, and, though the words and the phrases be the same, still the pronunciation and the sounds differ from the language spoken at the Court and in the country of the King of Persia.

This Province of Chaquata lies between Persia and Tartary to the North, India lying in a manner to the East of it.

It borders on the Osbaquis [Osbegs, Uzbaks], who are Tartars. Their first king was Cynguisqhan [Chingiz Khān], of whom St. Antoninus speaks.

To this day its Kings descend from him, and the King actually reigning is Abdollaqhan,[4] who, they say, is as great a sovereign as Aquebar. The capital of the kingdom is called Samarqhan of Boccorà.

Temurlang, from whom this king descends, was born in a village called Taragay, near to a town named Xarsabs, which means Green Town. [5] He was of low pedigree, and became

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[1] Akbar's genealogy is as follows: 1. Qutbuddīn Amīr Tīmūr Gūrgān; 2. Jalāluddīn Mīrān Shāh; 3. Sultān Muḥammad Mīrzā; 4. Sultān Abū Sa'īd Mīrzā; 5. 'Umar Shaikh Muḥammad; 6. Zahīruddīn Muḥammad Bābar; 7. Nasīruddin Muḥammad Humāyūn. Cf. Blochmann's transl. *Āīn*, I, table facing p. 578. Monserrate omits No. 3 and inserts Khān Mīrzā before No. 6. At fol. 138*a*. of his *Mong. Leg. Comm.*, he remarks that the *Tīmūr-nāma* does not agree with the list which he proposes and had obtained from Akbar himself and from the tutors to Princes Salīm and Murād. Faria y Sousa, *The Portugues Asia*, London, 1695, Vol. II, Pt. I, Ch. xi, p. 68, has the strange theory that Akbar was the son of Humāyūn's queen and an elephant-driver.

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Relacam do Equebar.[1]

Rei dos Mogores.

[*Fol.* 484*r* *LII.*] Mahamed Zelaldim Equebar · , Rei uulgarmẽte dito dos mogores, He sexto neto De / Tamorlam · aquelle, q̃ tomou · a bayazeto,[2] por manha, E o trouxe · em quãto uiueo · , Em huà gayola./

A ordem da geracam · he esta . Mirtimurlâng · Miranxâ, Abuçaij, Ommarxâ, qhanmirsâ, / Baburxâ, Emmaûpadxâ, Zelaldim Equebarxâ. /

A sua nacam · e patria, he Chaquata · os quaes sam turcos, e nam tartaros: , nem Parthos · , Como algũs cuidaò / a lingoa Popular Da naçam, he turquesca, Porem he differente, da q̃ falam os Turcos. Na corte falaõ, parse. / E aindaq̃ os uocabulos, e fraze he a mesma, a pronunçiaçam, e som he differente, do da linguajem q̃ falã / na corte, e terras DelRei de persia./

Esta prouincia do chaquata, jas entre a persia[3] E a tartaria pera o norte, E fica lhe, a india quasi pera / a banda Do leste. /

Tem por uizinhos, os, Osbaquis, q̃ sam tartaros; cuiuo primeiro Rei foi, Cynguisqhan · De q̃ fala sancto /Antonino/.

Do qual ainda ha geracam, de Reis, e o q̃ agora Reina se chama Abdollaqhan · o qual dizem q̃ he tam/ grande sñor como o Aquebar. A cabeca do Reino se chama, Samarqhan de boccorà.

Temurlang · Donde este Rei descende, foi natural, de huà aldea, q̃ se chama, Taragay · fermo De huà Cidade/ chamada Xarsabs, que quer dizer Cidade Verde, foi homem Baixo,

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1 First: *Aquebar.* 2 The MS. seems to have: *bayafeto.*
3 The MS. has apparently: *as persias.*

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2 From the name of Chingiz Khān's second son, Chaghatai Khān.
3 de Guzman understood this to refer to the people of Chaghata.
4 "'Abdullah Khān, chief of the Uzbaks, was the son of Sikandar Khān, son of Jānī Beg Khān, a descendant of Jūjī Khān, son of Chingiz Khān . . . He ascended the throne of Samarqand and Bukhārā in A.D. 1582." Cf. Keene's *Orient. Biogr. Dict.*, 1894, p. 8.
5 Compare with Monserrate's *Mong. Leg. Comm.*, fol. 123*a*. 1: "In pago Taragay Quexensis urbis, quæ ob amœnitatem, et agri hortorumque viriditatem Xaresabz dicebatur, patre Xacathæo, ac simulachrorum cultore, ordinis equestris, ac quattuor equitum tribuno: matre pari nobilitate natus."—*Xarsabs* represents Shahr-i-Sabz; *Quex* =

a Moor, although his father and mother were heathens.[1] He embraced a darwesh sort of life, a lazy kind of existence with a semblance of religion and holiness, and, as is known, from small beginnings he succeeded through craft and cruelty in becoming very great.

Equebar is tall, broad-shouldered, but bandy-legged.[2] His complexion is dark; his eyes are small, but the sockets are split, like those of the Tartars or of the Chinese. His forehead is broad and high; his nose flat, with a slight protrusion of the bone in the middle; his nostrils are broad; on the left one, he has a small wart.[3] He carries his head somewhat inclined to the right. With the exception of his moustache, which he keeps short and trimmed, he shaves his beard entirely, after the Turkish fashion. He lets his hair grow, a departure from the custom of his ancestors. He must be between thirty-eight and forty years old.[4]

He wears a turban, as is the custom in Industan. His dress is rich and sumptuous. Against the custom general among the Moors, he wears his *cabaia*[5] always up to the knees, whilst his breeches cover his heels. His slippers are not of the usual shape, but after a pattern of his own invention. He adorns his head with strings of pearls and precious stones of great value. At his girdle he always keeps a dagger, often too a sword, and, when he does not put it on, he has always one near him. About him are always some pages carrying sundry weapons. He is very fond of the Spanish style of dress, and sometimes, when within doors, he dresses in the Portuguese way. Very often his dress and his shoes are of black velvet.[6]

He is sagacious, prudent, magnanimous, brave, simple, affable, yet grave. When he orders justice to be executed, he wants that they should wait for three orders or injunctions from himself, before they can proceed. He gets seldom angry, but then violently; yet, he cools down quickly, for he is naturally kind.

Kush or Kesh.—His father's name is given as Amīr Turāghāī; his mother's as Takīna Khātūn in KEENE's *Orient. Biogr. Dict., s. v.* Amīr Taimūr. Some say he was a shepherd's son; others that he was descended from Chingiz Khān.

[1] *Gentio* was applied to Hindūs and others in contradistinction from the "Moors" or Muhammadans. We translate by heathen, gentile, gentoo. [*mediocre.*

[2] Peruschi (p. 7) omits "bandy-legged" and has instead: *di statura*

[3] Compare with *Mong. Leg. Comm.*, fol. 106*b*.4–107*a*.1; "Erat Zelaldinus facie, et statura. ad regiam dignitatem apposita . . . , latis humeris, incurvis cruribus, et leviter inflexis, et ad equitandum accommodatis, colore candido, modico nigrore suffuso, obstipo capite, et in dexterum humerum inflexo, fronte lata, et aperta, micantibus

De Pay & may gẽtios feito mouro./ foi Como daruese, q̃ he certa maneira, De Vida galhofa, Com apparencia De Religiam · E santidade, E como/ se sabe, De pequenos principios · E Com astucia, E crueldade, Veio a ser mui grande./

O Equebar, he homem, Bem apessoado, espadudo, zambro, das pernas · De cor trigueira, os olhos ras-/gados E piquenos · a modo De tartaro · ou chim · a testa larga, e descuberta, ho naris Igual, Com huà esqui-/na pequena no osso, do mejo, as ventàs, largas, tem huà uerruga, na ventà esquerda, tras a cabeca, hum pouco,/ inclinada, a maò direita · tras a barba a turquesca, toda rrapada, tirando os bigodes · os quaes · tras pouco cre-/cidos e aparados, Tras · Grenha, fora dos costumes, dos seus antepassados · & fora de trinta e .8. ate quarenta annos./

Vsa, de touca ao Custume, do Industaò, Veste rriqua · e lustrosa mẽte, E fora dos costumes comù dos mouros/ sempre tras · a cabaia Pellos Joelhos · E os calcoès q̃ lhe cobrem os calcanhares, Vsa De diuersa forma, De/ capatos q̃ elle mesmo muentou · Orna, a cabeca Com Ramaes De perolas · E pedras De muito presso · tras/ sempre adaga cingida E muitas uezes espada, E quãdo nam tem na sempre, perto dessi. Ao rredor delle,/ andam sempre, certos paies, q̃ lhe trazem, diuersas Armas. Cõtenta lhe muito o trajo espanhol · E alguas/ vezes · se veste dentro, a portuguesa, veste, E calca, veludo preto **1582**[1] muitas vezes.//

484v] He sagas · Prudente, De grande animo, Valeroso em sua pessoa, he cham, e tratauel, porem graue ;/ nas execucoès De iustica, q̃ manda fazer, manda q̃ esperem, tres mandados ou Recados seus · antes q̃ a faça,/ agastace poucas vezes, e essas muito, Porem torna tambem De pressa porq̃ naturalm^te he benigno./

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1 From another hand. The date of the *Relaçam*

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oculis . . . deductis in longum palpebris, ut sunt Sauromatum, Sinarum, et Niphónum [Japanese], et omnium fere Asianorum, quorum regiones ad arctos vergunt, tenui supercilio, naso mediocri, et demisso, ex quo tamen, os medium, eminet, patentibus, quasi succenseat, naribus; in quarum sinistra, verrucam, superiori labio coniunctam, habet."

4 Akbar was born on 15th October, 1542.

5 The *cabaia* is the surcoat or long tunic of muslin, which is one of the commonest native garments of the better classes in India. Cf. YULE's *Hobson-Jobson*.

6 H. Beveridge points out that, according to Diogo do Couto (IX Dec., ch. xiii, p. 63 sqq. of the Lisbon Edn., 1786), Akbar assumed Portuguese dress at Cambay on the occasion of Cabral's embassy (1573). Cf. *J.A.S.B.*, 1904, p. 53.

A chancellor and comptroller of the exchequer, who had turned a traitor, was twice pardoned by him, and reinstated into his office; but, the third time he had him hanged.[1] When he was near the river Behêt [Jhelam], they brought him twelve men who had fled from his camp to join the ranks of the enemy. He sat in judgment himself, and ordered to decapitate some, and to imprison the rest, according to the gravity of their offence. One of those whom he had ordered to be beheaded asked him for permission to speak. Being given leave, the prisoner said, "Sire, do not order to kill me, for I am without my peer in a certain accomplishment." "What can you do?" the King asked.—"Sire, I have not my equal in singing." —"Then sing." The wretched man started singing so badly that the king turned away to laugh. "Sire," said the prisoner, "pardon me if I am so hoarse. Those men of the bailiff dragged me along so roughly and hurriedly under a broiling sun, and gave me so many fisticuffs, that plenty of dust has got into my throat, and I am so hoarse that I cannot sing." This found so much favour with the King that he pardoned him and told not to behead any of them, but to keep them prisoners until he should get their crimes examined into.[2]

He can neither read nor write, but he is very curious, and has always men of letters about him, whom he gets to discuss on sundry topics, and tell him various stories.[3]

Wherever he is, the death-penalty cannot be executed against anyone without his permission, and, as for cases of importance between parties, he wants them also to be referred to him. In serious cases, he orders the criminals to be cast at the feet of the elephants or fixed on *caluetes*,[4] or sharp stakes, on which they impale them. Robbers[5] have their hand cut off without pity. People guilty of rape or adultery are beheaded or impaled. Other smaller and more common offences are punished with the lash.

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[1] The allusion must be to Khwājah Shāh Manṣūr of Shirāz. Monserrate relates how he was three times found to have communicated with Mirzā Hakīm of Kābul. The third time he was hanged from a tree at "Bād," a place which must be near Thāneśwar. Cf. Monserrate's *Mongol. Leg. Comm.*—"Abul Fazl (*Akbarnāma*, III, 343) says that Manṣūr was hanged on a tree near Sarāī Kot Kachwāha. Apparently, the place was, or was near, Shāhābād in the Thāneśwar tahsīl of the Karnāl Dt., Panjab (*Imper., Gazett.*, xxii, p. 198). Niẓāmu-d-dīn mentions Shāhābād as being the place, or near it. (ELLIOTT, v, 422.) Akbar afterwards discovered that the incriminating letters were a forgery, and that Manṣūr was innocent. Cf. NOER'S *Akbar* (transl.) II, 25; also Badayūnī (Lowe's transl.), pp. 300, 303." (*Note by H. Beveridge.*) According to the *Ṭabakāt-i-Akbarī*, the Sarāī of Bād was 15 *kos* from Fatḥpūr. Compare with Blochmann's notes in *Āīn*, I, 430-432.

A hum seu* Regedor, e Vedor[1] da fazenda, q̃ lhe foi tredo, perdoou duas vezes, e o admittio ao seu seruiço como/ dantes · a terceira ues o mandou emforcar · estando na Ribeira De Behêt · lhe trouxeram 12 homès q̃ fu-/giram Do seu Arraial, Pera se lancarem Da banda · do Immigo. E fazendo lhe pessoalm^te audiencia · / E mandando, a hùs degolar, E a outros leuar presos, segundo as culpas De cada hum · hum daqueles q̃ mãda-/ua Degolar, lhe pedio licenca, Pera falar, E dando lha disse o preso, Sñor naò me mãdeis matar, porq̃ sou unico/em huà habilidade. Perguntou lhe, q̃ sabes fazer, Respondeo, Sñor Canto unicamẽte. Hora canta, Comecou o/ coitado a cãtar tam mal, q̃ se abalou elRei pera querer rrir. Respondeu o preso Snor. Perdo a mi q̃ estou/mui Rouco, porq̃ estes beliguins, me trouxeram mui 1
atropelado, E de pressa · Polla calma, dandome muitas/ punhadas, E entrou me m^to poo polla garganta, E por isso estou Rouco, E naò posso cãtar · Cayo isto tanto em/ graca a elRei, q̃ lhe perdoou, E tornou a dizer, q̃ nam Degolassem, anhù daquelles · mas q̃ os tiuessem, pre-/sos, ate mandar uer suas culpas./

Nam sabe ler, nem, escreuer, mas he mui curioso, E sempre tem homẽs letrados · apar dessi, a quem manda,/ q̃ disputem entressi · de diuersas materias, E cõtem diuersas historias./

Onde elle esta naò se fas execussaò De morte em nimguem, sem sua licenca, E ainda as cousas De importancia · entre partes quer q̃ lhe sejam relatadas. Em casos graues, manda, lancar, os facinorosos, ao pee dos ali-/fantes, ou por em caluẽtes, q̃ sam hús aguieiros · agudos, em q̃ os espetam. Aos ladroes formigueiros mãda/ cortar a maò sem remissaò. Aos rraptores adulteros, manda degolar, ou emforcar, Outras culpas me-/nores E mais populares · manda castigar cò assoutes.

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[1] *First:* Vedor e Regedor.

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[2] This story is told somewhat more fully in *Mong. Leg. Comm.*, fol. 113*b*.4–114*a*.4. It will be found translated in Noer's *Akbar* (transl.), II, pp. 56-58.

[3] On Akbar's partiality for books, cf. *Âin*, I, 103.

[4] *Caluetes.* Cf. YULE-BURNELL'S *Hobson-Jobson*, s. v. Caluete. The word in derived from the Malayãl. *Kaluekki* (pron. . . *etti*): the punishment of impalement.

[5] *Ladroes formigueiros* are those who steal petty things.—"Fures, ut plurimum, vapulant, aut dextris plectunt." *Mong. Leg. Comm.*, fol. 114 *a*. 4.—"If a man or woman steal, cut off tlfeir hands in retribution for that which they have committed: this is an exemplary punishment by God, and God is mighty and wise."—*Koran*, Sura 5, verse 42.

He is naturally of a melancholic disposition. Hence, at one and the same time, he diverts himself with several distractions, such as playing polo (*choqua*) on horseback,[1] witnessing fights between wild elephants, buffaloes, stags, cocks, rams, wrestlers, fencers and boxers.[2] He likes to make pigeons fly and dance in the air,[3] and takes much pleasure in all sorts of birds and other curious things. Sometimes he assists at dances and tumbling feats. He finds also much recreation with his jesters, and keeps dancing elephants and camels. But, in the midst of all these diversions, he is in a perpetual whirl of business and state-affairs.[4]

He takes counsel in private with certain vazirs of his council, but decides alone and by himself. He makes known to them his decisions saying, "It will be good to do this, or that." And they all answer, "Peace to the King." And if anyone makes any objection, he listens graciously, without showing whether he will do or not what is put forward. Sometimes, too, he abandons what he had proposed.

He is very fond of hunting wild animals, of which there are many in his dominions, such as gazelles, stags, *meirus*,[5] wild goats, hares, etc. He hunts with ounces (leopards), because he has no grey-hounds or mastiffs, and but few harriers.[6] He does not care much for hawking;[7] yet, he has plenty of birds of prey for hawking, and setting-dogs and water-

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[1] *Choqua* or *choca* (Port.) "is a game in which boys strike one ball against another." It is *chaugān* or polo. Blochmann translates by hockey. Cf. *Āin*, I, 297; II, 180. Peruschi explains: "Aliquoties cum equitatu vtrinq; disposito (vt fit in ludo Italis dicto carosellorū) exercet se ligneis pilis vltro citroq; batillo ad id accommodato reverberandis, vt terrā nunquam attingant, nam quæ pars causam dederit, vt terram contingat, ea victoriā cedit alteri." Cf. *Histor. Rel.*, fol. 9v, or in the Italian ed., p. 25, where we find the word *chiocca*.

[2] The *Āin*, I, 252–253, speaks of gladiators and wrestlers. On deer fights, see *ibid.*, I, 218–222.

[3] Pigeon-flying was a favourite pastime of Akbar's. Cf. *Āin*, I, 298–303. He had about 20,000 pigeons at his court. "*Charkh* is a lusty movement ending with the pigeon throwing itself over in a full circle. If this circular turn be not completely carried out, the movement is called *katif* (shoulder) and is held in no esteem. *Bāzī* is the same as *mu'allaq zadan* (lying on the back with the feet upwards, and quickly turning round, in Hindi *kalā*) . . . . . Some pigeons get confused during the *bāzī* and *charkh*, and come stupefied to the ground. This is called *gulūlah* and is disliked." Cf. *ibid.*, p. 300.

[4] See *Āin*, I, 153–156. "On the manner in which His Majesty spends his time."—"He delights himselfe in divers Games, as fights of Buffals, Cockes, Harts, Rammes, Elephants, Wrestlers, Fencers, Dances, Comedies, and in the Dances of Elephants and Camels thereto instructed." Cf. *Purchas His Pilgrimage*, Ch. IV, Sect. I.

[5] *Meru*: a Mahratti name for the sāmbar stag. Cf. JERDON's *The Mammals of India*, London, 1874, p. 256. H. Beveridge thinks the

He naturalmẽte malenconizado, E por esta causa, se 2
entretem cò diuersos desemfadam^tos · em hum mesmo tempo,
como he/iugar a choqua a caualo, ver peleiiar alifantes brauos,
bufaras, E ueados, E galos, carneiros, lutadores, esgrimi-/
dores, joguo De punhadas, fazer uoar Pombas q̃ bailham no ar,
ver diuersidades, De passaros, E de outras/ cousas curiosas,
E alguàs vezes ue bailos, E jogos, De uolteadores, toma
muito passatempo, cõ seus chocarrei-/ros, tem Alifantes, E
camelos q̃ bailam. E no meyo, Destes desenfadamẽtos, esta
em huà Roda uiua De ne-/gocios, E diuersos despachos./

Acõselha se priuatim có certos Vazires, De seu cõselho,
E resoluesse soo, E porssi mesmo, Pubrica o q̃ assẽta/ Dizem-
do aos seus, sera bem, q̃ facamos isto, ou estoutro E todos
lhe Respondem, Pas A elRei E se algù/ lhe poem alguà
difficuldade, ouue a bem, sem mostrar, q̃ o fara, ou deixara de
fazer, o q̃ propos. E alguàs/ vezes Deixa, De fazer o q̃ tinha
proposto.

He mui inclinado, a caça de feras, q̃ ha muitas na sua
terra Como, De gazelas, ueados, Meirus, Cabriolis,/ lebres &ct.
Caca com oncas, porq̃ naò ha libreos, nem aloès, e ha poucos
galgos, naò he mui inclinado, a al-/fenaria aindaq̃ tem en
grande copia de[1] aues De caçar, E cães de amostra, E cães

[1] Later addition: *de*, which is redundant.

word *merú* is connected with mārāl, which is Turkish for a stag, and also for a doe. "Les chasseurs d' Agra vont jusqu'à cinq journées au de-là de cette Ville, en une montagne qu'on appelle Nerover [Narwār], où il y a une mine d'excellent fer; mais ils ne font cette course que pour y aller prendre de certaines Vaches sauvages qu' ils appellent Merous, qui sont dans des bois à l' entour de cette montagne, qui est sur le chemin de Sourat à Golconde. & comme ces Vaches sont ordinairement fort belles, ils en tirent grand profit." Cf. *Voyages de Mr de Thevenot*, Paris, Biestkins, 1684, ch. 21, p. 113. Thévenot's *merous* or "vaches sauvages" are probably the *Nilgai* or blue-bull of sportsmen. Monserrate writes in *Mong. Leg. Comm.*, 44*b*. 3; "Cerulea bos (nilagau=cærulea bos) persimilis, est ceruo, sed capitis, et reliqui corporis magnitudine, dispar." In his Index, nilagau=meirú.

6 "Ac quod canibus venaticis, gallicis, atque Alanis regio destituta sit, innumeras prope pantheras immodicis sumptibus alit." Cf. *Mong. Leg. Comm.*, fol. 44*b*. 3.—"His Majesty likes this animal [dogs] very much for his excellent qualities, and imports dogs from all countries. Excellent dogs come from Kābul, especially from the Hazārah district, [N. of Rāūl Pindī]." *Āīn*, I, 290. European bloodhounds were early imported by the Portuguese, notes Blochmann. Jahāngīr once said to Roe: "I only desire you to help me to a horse of the greatest size, and a male and female of mastiffes, and the tall Irish greyhounds, and such other dogges as hunt in your lands." (*Ibid.*, *n.* 3.)

7 Abul Fazl states that Akbar was very fond of hawks, and used them often for hunting purposes. *Āīn*, I, 293.

spaniels. He has in his service men who are very clever in bringing down the denizens of the air with a kind of shaft without iron point, tip or feathers. It turns transversely (?) in the air as it flies, and it is marvellous how it never misses its aim.[1]

Deer he hunts with other deer, which carry a noose about their horns. They fight those of the bush, and when they feel their opponent caught in the noose, they let themselves drop on the ground and wait for the hunters to come up and seize it.[2] And when he goes to war, he always goes a-hunting.

At times, by way of pastime, he has the bush surrounded by 3 or 4 thousand men holding one another by the hand, while others beat the field and start the game. And those who let anything escape pay a certain fine.[3]

His palaces are very sumptuous and strong.

Every day, he changes his guard [4] and those in the service of his establishment, in such a way that the same are on duty every eighth day. His guards, some 200 men, receive their board on the day when they are on duty. Those who are always on duty are—his secretary, the governor (?), the minister of finance, the auditor of the exchequer, the censor (?), the chief chamberlain, the major-domo, the lord-marshal, the chief treasurers, the chief usher, the palace jailer, the prefect of the ministers of justice, and the head-cook.[5] At his table they serve up 40 or 50 dishes in large porcelain plates covered with *sapadouras*, and having a cloth tied on the top sealed with the headcook's seal. The butler and the kitchen-servants bring them up to a certain place, where they are taken up by women.[6]

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1 "I doubt the correctness of the translation about the arrow turning in the air. If not wrong, surely Monserrate's statement is wrong. The arrow meant is the *tuka* arrow referred to in IRVINE's *Army of the Indian Moghuls*, p. 97. It was used for killing small birds flying, and is described in oriental books on archery." (*Note by H. Beveridge.*)

2 "They put a net over its horns [of the deer], and let it off against wild deer, which from fear will fight with them. During the struggle, the horn, or the foot, or the ears of the wild deer will get entangled in the net; the hunters, who have been lying in ambush, will then run up to it, and catch it." *Āīn*, I, 291. Abul Fazl describes in detail tiger-hunting, elephant-hunting, hunting with leopards, and hunting deer with wild deer. *Āīn*, I, 282–293.

3 "When he goes to warre, hee will cause a whole Wood to bee round beset with men, hand in hand; sending others in, which raise the Beasts, and drive them into the others armes; which, if they let them goe, *are punished, to make sport that way.*" Cf. *Purchas His Pilgrimage*, Ch. iv, Sect. i. du Jarric and Peruschi translate in the same manner.

4 "The Imperial army has been divided into twelve parts, each of which mounts guard for the space of a month. This gives all troops whether far or near, an opportunity to come to court, and to partake of the liberality of His Majesty .... The four divisions of the army have been divided into seven parts, each of which is appointed for one day .... They are day and night in attendance about the palace." *Āīn*, I, 257.

dagoa, tem hoès mui destros em matar/ caca no ar, Com huà certa maneira de uirote, sem ferro, nem Cabeca, nem penas, o qual uai dando uoltas atreuessado/ E de marauilha, lhe escapa nada.

Caça veados cò outros veados, os quaes leuam, o laco, nos cornos, E peleiiando com os do mato,/ Como o sẽtem em-/baracado se deixam caìr no cham, ate q̃ os cacadores o vem tomar. E quando uai a guerra, sempre vai/ caçando.//

Fol. 485r.] Algumas vezes manda sercar o mato, por · 3 · ou 4 mil, hoès pegados pollas maòs, E outros q̃ o uam batendo, E a-/leuantando a caça, E aqueile a quem escapa, paga certa pena a modo, De passatempo./

Os seus passos sam mui, sumptuosos, E fortes

Cada dia muda a guarda, E servico, de sua casa, De maneira q̃ de oito em oito dias tornam, os mesmos a seruir/ aos Da guarda, q̃ seram duzentos homenś, da mesa, no dia q̃ lhes cabe sua guarda. tem cõtinuos, o secretario,/ o regedor mor, o vedor da fazenda, o cõtador, E o apontador, o camareiro mor, E o vedor de sua casa. O Marichal,/ E os Tisoureiros mores, o porteiro mor, o caçereiro da corte, E o prefeito dos ministros da iustica · E o cozinheiro mor./ Seruem lhe, 40. ou · 50 · Iguairas em bacios grandes De porsoñana, Cubertas cò sapadouras, E por rriba hum pano/ atado, E mutrado, cò sello, do cozinheiro mor, leuamnas O mestresala, E moços Da cozinha, ate certo lugar, E ali/ lhas tomam molheres./

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[5] Compare with *Mong. Leg. Comment.*, fol. 112*a*. 2, 3: "At vero assidue in aula versantur, Magnus prætor, consiliarius privatus, Quæstor, conficiendarum rationum magister, Ædilis, censor, cubicularius maximus, aulæ instructor, qui rem familiarem regis tuetur, castrorum saxametator, Tribunus ærarius, ianitor maximus, flagitiorum, qui in custodia continentur, custos, carnificum tribunus, et culinæ regis, præfectus, et id genus alii." It is difficult to determine the attributes of some of these officials, whether we consider the Latin or the Portuguese form of their titles. On the duties of the Admiral, of the Master of the Kitchen, of the Commander of the Forces, of the Kotwāl, the Collector of the Revenue, and the Treasurer, cf. *Āīn*, I, 57, 279; II, 30, 41, 43, 49.—Monserrate (*Mong. Leg. Comm.*, fol. 98*a*. 1) explains the term *abdulsaman*: "muneris huius nomen est, i.e. rutorum cesorum servus."—Bluteau defines the term *contador*: "the officer who presides in the tribunal of the *Casa dos Contos*."—The *apontador* was an overseer. At the esplanade or Riviera of Goa, where all work necessary for the ships of war and trading vessels was done, there was the *contador*, who paid the workmen, and the *puntador*, who pricked them off and measured their work "in such wise that if their work be short, they have to suffer a like abatement of their time." Cf. *Pyrard de Laval*, Hakl. edn., II, Pt. I, 42.

[6] A *sapadoura* must be a kind of gold cloth. In a MS. letter of Fr. Jerome Xavier, S.J. (Lahore, 8th Sept. 1576), I find: "O trono era paualhaõ da China riquissimo pera ser todo cuberto de *Chapadouro*

The king manages his finances with great care; but, as this would be a long matter, I do not write about it.

He has at his court more than twenty petty gentoo kings, his vassals, as great lords as the King of Calecut, barring many others absent from the court, who pay tribute to him. He trusts these very much, and they have access to places of the palace where none of his Moorish captains is admitted.

The officers of justice are: the ordinary judge, another judge for appeals and the revision of cases, and a bailiff. Everything is done verbally.[1]

Those in whom he finds natural talents, he brings near him to make use of them, even though they be of low extraction, or foreigners; he makes grandees of them, as he did in the case of one of his vazirs, whom of a revenue-accountant he made minister of revenue, and one of his counsellors;[2] as also in the case of his secretary, once a poor Molla;[3] of his admiral, formerly an overseer of pioneers;[4] of his chief physician[5] and others. But, those who from mechanics and artisans are raised to high rank, have always, by his order, carried before them some instruments of their former office. Before the admiral they carry a mattock and a shovel of polished iron, with turned heads and painted at the top. The Cottoal [Kotwāl][6] of the Court, who is like a chief bailiff, and was formerly his fencing-master, carries a stick used in parting combatants. It is painted and gilt, and has a golden knob. The same is done for the other office-bearers, but for the rest they have as much access to the Court as the Princes of the blood.

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mosisso com m^tos lauores este lhe aprezentou hũ seu capitaõ o anno d[illegible]ntes."—"[Akbar's] throne was a very rich Chinese pavilion, for it w[illegible] entirely covered with massive and lavishly embroidered *chapadouro*. It had been presented him the year before by one of the captains."—Compare with Peruschi: "& ciascuna di esse [vivande] ha una *salvietta* attorno avvolta, & legata, quale è sigillata co' l sigillo del Capocuoco, over cuoco maggiore; & sono portate da tanti paggi [i.e., 40 or 50] andando avanti il scalco, and il Maggior domo." (p. 20).—"The gold and silver dishes are tied up in red cloths, and those of copper and china in white ones. The Mīr Bakāwal attaches his seal, and writes on it the name of the contents. The dishes are carried by the Bakāwals, the cooks and other servants, and mace-bearers precede and follow." *Āīn*, I, 58.—The Latin of *Mong. Leg. Comm.* (fol. 108*a*. 4: *b*. 1) has: "Epularum fercula, amplius quadraginta inferuntur, maximis patinis: quæ *operculis tecta et linteis obvoluta*, a cocco obsignata, ut veneni periculum, et suspicio declinetur; apparitoribus præeuntibus, œconomo subsequente, ad conclavis vestibulum, iuvenes deferunt, ubi ab eunuchis accepta, ancillis traduntur, quæ Regiæ mensæ ministrant."

[1] "Jus dicunt duo iudices, alter primarius, alter ad quem, si appellatio intercedat, iudicium deferatur. Prætor vel quæsitor unus. Et iudicia verbo dumtaxat, non scriptis fiunt." *Mong. Leg. Comm.* fol. 124*b*, 1, 2.

[2] Khwājah Shāh Manṣūr. Cf. *Āīn* I, 430, and *Mong. Leg. Comm.* fol. 39*b*, 2.

Tem mui grande Ordem na fazenda, porem porq̃ he cousa, Comprida, Deixo, de a escreuer./

Tras · em sua corte mais de uinte Regulos gentios, seus uassallos, tam grandes, senhores, Como elRei de calecut, a-fora/ outros muitos ausẽtes, q̃ lhe pagam pareas · / E destes se fia muito, E entraò no paco onde nam podem entrar/ nhùs de seus capitaes mouros./

Os officiais da iustica, sam, o Juis ordinario E outro Juis pera as apellacoès E reuista · E hum meirinho,/ E tudo se iulga uerbal · mente. /

Os hoès em q̃ acha partes naturaès, pera se seruir delles, E trazelos perto dessi, aindaq̃ seiam baixos; ou estrà-/geiros falos grandes, Como fes a hum, Vasir q̃ de escriuam da fazenda, o fes vedor della, e de seu cõselho./ E ao seu escriuam da Puridade, q̃ hera hum pobre mollâ. E o seu almirãte, q̃ hera p̃feito dos gastadores. E o seu/ fisico mor, E outros, Porem estes q̃ de mecanicos, ou trabalhadores fas grãdes, manda q̃ sempre tragaò diãte/ dessi algùs instrumẽtos desseus officios, Como, o almirãte a q̃ trazem, diante huà emxada, E huà paa/ de ferro · luzido com seus cabos torneados · E por rriba pintados. E o Cottoal, Da corte, q̃ he como meirinho/ mor, q̃ primeiro foi seu mestre da isgrrima, tras hum bastam, q̃ usam pera apartar, pintado, E dourado, E cõ seus cabos de ouro, E assi outros q̃ sam officiais, E no mais tem as mesmas entradas q̃ os q̃ as tem por sangue/E geracam./

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[3] Abul Fazl, who must be meant by Bl. Rud. Aquaviva, when he speaks of the Emperor's secretary. Cf. *J.A.S.B.*, 1896, p. 55. Monserrate mentions him in 1581 as Akbar's secretary (*Mong. Leg. Comm.* fol. 71*a*. 3). He was the son of Mulla Mubārak of Nagore, who himself became a Qāzī through the influence of his two sons, Abul Fazl and Faizī.

[4] Peruschi makes of the Admiral a former overseer of those who manufactured spears or lances: "Capo di quelli che faceuano le haste," and says that they carried a lance (*hasta*) before him. Cf. *op. cit.*, p. 21. Qāsim Hasīr, the research scholar employed by our Society, writes to me: "Akbar's admiral in 1580-82 was Qāsim Khān, *Mīr-Baḥr*. Akbar gave him the title of Mīr Abī (admiral or lord of the sea). Notices of his life will be found in *Maāsir-ul-Umarā*, Vol. III, p. 62, and Blochmann's transl. of the *Āīn*, pp. 379 (No. 59), 620."

[5] The *Āīn*, I, 542–544, gives a long list of Akbar's physicians. E. D. Maclagan failed, however, to identify the Emperor's chief physician for the period 1580—1582. Cf. *J.A.S.B.* 1896, p. 51. "Akbar's chief physician in 1580-82 was Hakīm Alī of Gīlan, who had the title of Gālīnūs-uz-Zamānī (Galenus of the age). Notices of his life will be found in the *Akbarnāma* (39th year of Akbar's reign); Jahāngīr's *Tūzak* (Memoirs, p. 74); *Maāsir-ul-Umarā* (*s.v.* Ḥakīm), and Blochmann's *Āīn* (transl.), pp. 402, 466 (No. 192), 542." (*Note by Qāsim Hasīr*).

[6] "It is very difficult to find the name of Akbar's chief Kotwāl for 1580–82. Kotwāl Khān Ghulām Gurjī Daulat Khān is found in the *Maāsir-ul-Umarā*, Vol. I, where a passing account of his life is given." (*Note by Qāsim Hasīr*).

His manner of transacting business is to go, generally twice a day, to a place where he can be spoken to. For this he has two very large squares, in each of which rises a most beautifully adorned estrade. One of these squares is open to all classes of distinguished people;[1] to the other are admitted only the great captains, his litterati, the Fathers, the Portuguese and those of his family.[2] The greater part of the business he listens to and settles standing; at times even, he remains standing two or three hours, talking now with this one, then with that one.

Eight men[3]—of those with whom he is most familiar and whom he keeps most about his person—have each their day of the week to present those who have business to transact, and hand him their petitions, and when those from without come to kiss his foot,[4] they act as sponsors and masters of ceremonies.

There are always about the King certain scribes who pick the words out of his mouth and write down at once whatever he says and ordains.[5] This, it seems, is an ancient custom of the Persians and the Medes, and of the peoples of this country; hence, we can understand the practice described in the book of Esther and Daniel.

His usual seat is on an estrade, where he squats in Moorish fashion; but, they keep always near him a chair with a back, like ours, and covered with crimson velvet, on which he often sits down.

In certain private meetings with his captains, at which the Fathers were present, and sometimes when the Fathers were speaking to him within doors, he made them alone sit near him.

He has three sons and two daughters, not counting many children who have died.

The Prince is called Xeco; the middle one, Pahari; the youngest, Danial or Dân, and for honour's sake they add to their name Gio, which means "soul." Hence, they say Xecogio, etc., as if you said "soul of Xeco."[6]

The kingdom, which he inherited from his forbears, is called Industan. By his victories over the Patanes, Baloches,

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1 "Difficile dictu est, quam facilem se, in hominibus audiendis, admittendisque præbeat. Singulis enim, prope diebus, omnibus, tum popularibus, tum proceribus, colloquii sui, copiam facit." *Mong. Leg. Comm.*, fol. 107*a*. 4.

2 See "Regulations for admission to Court." *Ain*, I, 156-157.

3 We have "seven" in *Mong. Leg. Comm.*, fol. 111*a*. 2.

4 Was not the practice rather to put one's head on His Majesty's foot? Cf. *Ain*, I, 265.

5 Regarding the *Wāqi 'ahnawīs* or scribes, and what they were expected to chronicle, see *Ain*, I, 258.

6 The three sons of the Emperor were Sultān Salīm, whom Akbar

O modo q̃ tem de negociar, he ordinariamẽte duas vezes 3
cada dia vir onde lhe possam falar, pera isso tem dous,/
pateos mui grandes. E em cada hum delles, hum estrado,
mui bem apparamẽtado, em hum destes pateos entra/ toda
a maneira de gẽte limpa. No outro emtram, somente, os
capitaes grãdes, E os seus letrados, os padres./ E portugueses,
os seus familiares, Os mais dos negocios ouue, E despacha
em pee, E ainda alguàs vezes em pee duas E tres horas,
falando, com huns, E falando, com outros./

Tem oito hoẽs dos q̃ lhe sam mais aceitos, E q̃ elle tras
mais p̃to dessi repartidos pollos dias da somana,/ pera lhe
apresentarem as partes q̃ tem negocios E offerense lhe as
peticoès E quando lhe, uem a beiiar/ o peẽ os q̃ vem de fora,
estes sam como seus Padrinhos, E mestres das ceremonias./

Andam sempre perto delRei certos escriuoès q̃ lhe
tomaò a Palaura, da boca, E escreuem logo quanto dis/ E
ordena o qual parece q̃ he costume antigo Dos persas E
medos. E destas naçoẽs decâ, E assi se pode en-/tender q̃
se praticaua, o q̃ se escreue em o liuro, De Hester, E daniel./

O comù assẽto seu, he em estrado, E de cocaras, a
mourisca, porem sempre lhe trazem, p̃to huà cadeira, de
espal-/das, De veludo carmesim ao nosso modo, em q̃ se
assenta muitas, vezes.//

Vol. 485ᵛ·] Em algùs aiuntamẽtos secretos, De seus capitaes em
q̃ se acharam os padres · E alguàs vezes falando os padres ·
/Demtro cò elle, soo os fazia assentar apar dessi./

Tem tres filhos homès E duas filhas molheres, afora muitos 4
q̃ lhe morreraò./

O Principe se chama, Xeco, o do meio, Pahari, o mais
pequeno danial, ou Dân E por honrra lhe/ acrecentam gio
q̃ quer dizer alma, E dizem Xecogio &ct. Como se dissese
alma de Xeco./

O Reino q̃ herdou, de seus, auos, se chama industan, ao
qual elle aiuntou muitas terras, vencendo, Patanes,/ baloches,

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used to call *Shaikhū Bābā*, Sulṭān Murād, nicknamed Pahāṛī, and Sulṭān Dānyāl, thus called in remembrance of a Shaikh of that name, a follower of Mu'in i Chishtī, to whose tomb at Ajmīr Akbar often made pilgrimages, in the beginning of his reign.—*Jī* means, indeed, 'spirit' (*rūh*); but it is used also as a mere honorific title, like *Sir* or *Esquire*, or like *Don*, as Peruschi remarks.—"*Sciec* the eldest, he which is honoured with the title *Gio*, and called *Sciecigio*, that is, the Soule or Person of *Sciec*." Cf. *Purchas His Pilgrimage*, Ch. IV, Sect. I.—*Jī* is still pronounced *jīū* in Northern India, as it was in Akbar's time. The *Ṭabakāt-i-Akbarī* speaks of a Rājā Bihār Jīū. Cf. Elliot's *Hist. of India*, V. 151.

Gaccares, and Gusarates, Moors these, and over many petty gentoo kings, he added to it many lands. Anciently, Delî was the seat of the kingdom of Industan. He shifted it to Agrâ, but, as his children died there, he went to Fatepûr, a city newly founded and built by him, six leagues from Agrâ.

The chief cities of his dominions are Cambaiéte, Delî, Lahôr, Moltân, Mandhô, Patanâ, Junipûr, Emadabâ, some of which are as big as Lisbon.[1] Mandhô is nine leagues in circuit, and has a suburb of 3 leagues.[2] Its ruins attest that it was entirely populated. Even now its population must be like three times that of Evora.

From afar these towns look very pretty on account of their terraces, pinnacles and turrets. Within, the streets are narrow, lacking in cleanliness, and constructed without order. The houses have no windows. Still, the houses of the Moors, chiefly of the rich and more distinguished, are very fine, having many tanks and gardens. The Bramanes, too, and other wealthy pagans, have good houses. The common folk live in thatched mud-houses, so that, when one has seen one town, there is little to be seen in the rest.

The lands which he governs are those which are situated between the River Indo, called Scind by the natives, and the River Ganga, commonly believed to be the Ganges. This the ancients called Hither India. Here preached the Apostle St. Bartholomew, as Perionio (?)[3] and others write in his life. To the north-east are certain mountains, called by the natives Cumaum, apparently the Imao,[4] which separates the Mogor's dominions from Tartary. To the south is the sea, on the coast of which he has no other harbours than those of Cambaia [Cambay], *viz.*, Çurráte [Surat], Baróche [Broach, Bharoch], Cambaiéte [Kambhāyat] and Goga. To the south-west, he borders on the lands of certain sovereigns of the Decan, and of Canara, anciently the kingdom of Narsingua [Nar Siṁha] and Bisnaga [Vijayanagar]. These parts the cool, and abound in groves and fruitage. They grow are sugarcane. In some parts there are grapes, peaches, mul-

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[1] Kambhāyat, ... Multān, Maṇḍū, Paṭnah, Jaunpūr, Aḥmadābād.—We find further Amadaba instead of Emadaba [Aḥmadābād].

[2] Peruschi (p. 8) says: "30 miles in circuit, *i.e.*, 10 leagues; some say it is 8 leagues or 24 miles, meaning the part inhabited and now-a-days reduced; some say that it is 36 miles in circumference, *i.e.*, 12 leagues." Monserrate's *Mong. Legat. Comm.* (foll. 12 *b*. 4—14 *b*. 2) contains an interesting description of Maṇḍū. We read there: "muri enim circuitus, iis locis integri, qui obiecto prærupto saxo muniuntur, viginti quatuor fere millia passuum patet."

[3] The only name among Monserrate's authorities in *Mong. Legat.*

Gaccares, E gusarates mouros, E muitos, Regulos gẽtios. O solio Antiguo, Do Reino De in/dustan, foi Delî, E elle o mudou a Agrâ, E porq̃ lhe morriam os filhos, se passou a fatepûr - q̃ he/ cidade noua fundada, E edificada, por elle, seis legoas De Agrâ./

As cidades maiores, q̃ tem sam, cambaiéte, Delî, Lahôr. Moltân, Mandhô, patanâ, Junipûr,/ Emadabâ, das quaes alguàs sam tamanhas, Como lisboa, E màdhô, tem noue legoas De cerco, E hum arra-/balde, de .3. legoas, E foi toda* despouoada,[1] como parece, pollas ruinas, Agora sera pouoaçam, como . 3./ vezes Euora./

Estas cidades: de fora tem mui boa, aparencia Por causa, dos eirados, corucheos, E torrinhas, q̃ tem. Dẽtro/ tem as ruas estreitas, pouco limpas, Deshordenadas, sem, jenellas, Porem as casas Dos mouros, Prin-/cipalmẽte dos Riquos, E onrrados, sam mui fermosas por dẽtro, E tem muitos tanques, E jardiñs, E assi tã/bem os bramanes, E outros gẽtios ricos, tem boas casas. A gente popular, mora em Casas De Barro, Palha-/ssas, De modo q̃ uista, huà Cidade, ha pouco q̃ ver nas outras./

As terras q̃ senhorea, sam as q̃ jazem, entre, o Rio 5
Indo, a q̃ os naturaes, chamam, Scind, E o rrio, ganga, q̃ vulgarmente cuidamos, ser o ganges, a qual - os antigos chamaram, India citerior, Onde pregou o Ap̃lo/ sam bertolameu, Como escreue perionio [?], E outros na sua uida. Ao nordeste, tem huàs serras a q̃ os/ naturaes, chamam, Cumaum, q̃ parece, ser O Imao, q̃ as diuide da tártaria, E ao sul tem o mar, E na costa/ Delle, nam tem mais q̃ os portos, De cambaia, q̃ sàm, Curráte. baróche, Cambaiéte, Góga, E polla/ parte do sudueste, partem cò elle, algùs senhores, do decan, E do canara, q̃ Antiguamẽte, foi o Rei-/no de Narsíngua, E bisnagâ, sam terras, fresquas, De muitos aruoredos, E fruita, ha canaueaes,/ Da suquar, Em alguàs partes, ha uuas, pecegos,

[1] First: *pouoada* = populated. The correction to *despouada* must be a mistake of the copyist.

Comm. which approaches "Perionio" is Paul Jovius, the author of *Elogia virorum illustrium*, Florence, 1554, and *Commentarius Turcicarum rerum*. Monserrate quotes both works. The hesitation betrayed by the copyist over the first syllable of *perionio*, makes me think that he should have read *p'lo iouio* or *como se escreue por iouio*. The opinion generally is that there is no foundation for the story connecting St. Bartholomew with India. India covers a vast area in the old writers, e.g., Arabia Felix.

[4] Tieffentaller similarly identified the Imaus with the mountains of Kumaon. Cf. Bernouilli's *Description de l' Inde*, I, p. 47.

berries, and the more usual fruits, like those of the jujube-tree.[1] There are all kinds of thorny trees,[2] and every sort of vegetables, with the exception of lettuce and beets. Industan is watered by ten rivers, called as follows: the Taphî,[3] which passes through Çurráte; the Narvadá, [4]passing through Baroche; the Sámbel,[5] which flows into the Jamona [Jumna]; the Jamona, which passes into the Ganga [Ganges]; the Ganga, with its mouth in Bemgala; the Çatanúlge,[6] Behâ,[7] Raoy,[8] Chenaõ,[9] Behêt,[10] and the Indo, which the last five join.

In Industan there were Christian kings, who were dispossessed and destroyed by the Parthians, now called Patanes.[11] The last Christian king, as St. Antoninus relates, was called David. In about a year, the descendants of Temurlan, thanks to their successes in their wars against the descendants of Cymguisqhan, penetrated into the country of Qhabul, on the con-

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[1] In the *Âîn*, I, 64—73, there is a chapter on fruits and the places they came from. Grapes came from Kashmîr and Kâbul; cherries, apples, pears peaches, apricots, were mostly imported from Kâbul. Even from Samarqand they brought melons, pears, and apples.

[2] *Arvores de espinho* (*lit.* thorny trees) comprise lemon-trees, orange-trees, etc. Peruschi has: "limoni, cedri, naranzi."

[3] The *Âîn*, II, 243; III, 304, spells it *Taptî* and *Tâpî*; Monserrate spells it *Taphi* and *Taphti*, and latinizes it "Taphes."

[4] "Narvada fluvius, qui Amadabæam alluens, Barocii exit in mare." *Mong. Leg. Comm.* fol. 12*a*. 3.—"The Narbadah flows past it [Bhâroj] in its course to the Ocean." *Âîn*, II, 243. Monserrate is wrong in making the Narbada pass through Aḥmadâbâd.

[5] Sambel, first written Sumbal, then either Sámbel or Çeámbel, is the "Chambal," the "Samballus" or "Sambalus" of Monserrate's map and text in *Mong. Leg. Comm.* fol. 18*b*. 3. He marks it as flowing S. of Fathpûr and 'Daulpur' [Dholpur], and N. of Gwâliâr, and throwing itself into the Jumna. But at fol. 3*b*, *ibid.*, it is placed among the affluents of the Indus. It formed, says Monserrate, the boundary between the kingdom of Mâlwa and that of Delhi. It is the Chambal of our maps.

[6] We wonder where Monserrate took this form "Satanulge" or "Çatunulge" from. He means the Sutlej, and identifies it correctly with the Zaradros of Ptolemy. We may note here that he was familiar with the writings of the Greek and Latin classics: Ptolemy, Strabo, Pliny, Apollodorus, Solinus, Diodorus of Sicily. Cf. on the Zaradros, W. McCrindle, *Ancient India as described by Ptolemy*, London, 1885, p. 91.

[7] The Biah or Beas. "The Biah was anciently called Bipâsha." *Âîn*, II, 310. Monserrate latinizes it Bibâsis, identifies it with the Hypânis of Strabo, and calls it the limit of Alexander's expedition. Cf. *Mong. Leg. Comm.*, fol. 60*a*. 1; 60*b*. 1.—We have the forms *Bibasis* (Ptolemy); *Hyphasis* (Arrian and Diodorus); *Hypasis* (Pliny); *Hypanis* (Strabo). The Sanskrit name was *Vipâśâ*. Cf. McCrindle, *ibid.*, p. 90.

[8] The Raoy of Monserrate is the Râvî. He identifies it with the Adris (*Mong. Leg. Comm.*, fol. 61*b*. 4).—"The *Râvî*, the ancient *Irawatî* . . . ." wrote Abul Fazl (*Âîn*, II, 310). The name *Râvî* is an abridged

amoras, E a fruita mais ordinaria como sam maçañs, da nafega, tem todas as aruores, despinho, E toda a ortalica, tirando, alfaces e alcegas. Tem dez rrios caudaes, cuios nomes, sam os seguintes, taphi, q̃ vai ter a çurráte, Naruadá, a baroche. Sámbel [Çeámbel ?] q̃ se mete, em Jamonâ, Jamonâ, q̃ se mete no ganga, A, ganga, sae em bemgala, Çatanúlge, behâ, Raoij, chenão, behêt, E o indo, onde, estes cinco se metem.

No Industan, ouue Reis xpaõs os quaes foram, desapossados, E destruidos pollos partos, a q̃ agora chamamos patanes. O derradeiro Rei Xpaõ se chamaua Dauid Como cõta Sancto Antonino,* perto de hum anno,[1] os netos De temurlan, por uarios succeassos, De guerra q̃ tiueram, com os descẽdẽtes de Cymguisqhan, se uieram, recolhendo pera as terras Do

[1] I propose: "Perto de huñs annos" = After some years.

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form of the Sanskrit Airāvatī, a form which we can trace in the *Adris* or *Rhouadis* of Ptolemy, the *Hydraotes* of Arrian, the *Hyarotis* of Strabo. Cf. McCrindle, *op. cit.*, p. 90.

[9] The Chenaõ [Chenāb] is identified by Monserrate with the "Sandabalis" or Sandabal of Ptolemy (*Mong. Leg. Comm.*, fol. 62*a*. 3). Abul Fazl says that its ancient name was *Chandarbhāgā*. (*Āīn*, II, 310.) McCrindle (*op. cit.*, p. 89) takes Ptolemy's *Sandabal* to be a copyist's mistake for *Sandabaga*, a transliteration of Chandrabhāgā, one of the Sanskrit names of the Chenāb. The Chenāb is also called Asiknī in Vedic hymns; hence Akesinês in Alexander's time.

[10] The Behêt, identified by Monserrate with the Bydaspes (*Mong. Leg. Comm.*, fol. 62*b*. 3), and by Abul Fazl with the Bidasta (*Āīn*, II, 311), is the Bihat or Jhelam, the Bidaspês of Ptolemy, the Hydaspes of other classical writers, the Bedasta of the natives of Kashmīr, *Vitastā* in Sanskrit. Cf. McCrindle, *op. cit.*, p. 89.

It may be seen by these identifications of Monserrate how he had anticipated many much later discoveries. We may compare his geographical researches with those of Father Joseph Tieffentaller, S.J., in Bernouilli's *Descr. de l' Inde*, I, pp. 46—60.

Peruschi and his printers were particularly unlucky in their rendering of most of the proper names in this paragraph. We have Barote for Baroche; Cambarate for Cambaiéte; Oga for Goga; Catanul for Çatanulge; Cebcha for Behā, Rebeth for Behêt. The same mistakes occur in du Jarric and Purchas.

[11] One of Monserrate's favourite theories is that there were formerly Christians in Kābul and at Gwāliār, and that Christian kings reigned at Delhi in Tīmūr's time. He acknowledges, however, that he could discover no traces of Christianity in North India. The Muḥammadans, he thought, had destroyed every vestige of it. About the 13 *basso-relievo* figures at the entrance of a temple at Gwāliār, which were said to be Our Lord and his 12 Apostles, he says, "non satis constare potuit, quorum, essent." *Mong. Leg. Comm.*, fol. 17*b*. 3 and Index *s. v.* Christiani. I do not discover any Muḥammadan ruler by the name of Dāūd at Delhi or in the adjoining kingdoms at the time of Tīmūr's invasion (1398). It is a common Muḥammadan name, and may have been taken for Christian by mediæval writers.

fines of Persia and India. There they had divers encounters with the Patanes, until they finally subdued all those who lived in the country of Qhabul from the Indo inwards. Baburxâ, Equebar's grandfather, continued the war with the Patanes in India, on this side of the river, conquered the whole of Industan, and drove them into Bemgala.[1] After the death of Baburxa, the Patanes turned against his son, Emaumxa, and obliged him to betake himself, with little honour, to Qhabul. Seeing himself ousted, he went to ask help from the King of Persia, who gave him one of his Captains, a very brave soldier, with 12,000 men,[2] on condition that he would follow his sect. With these 12,000 men and his own forces Emaumxa did such good work that he recovered what he had lost, and obliged the Patanes to retire into Bemgala. On the death of Emaum, Equebar, now reigning, succeeded to the throne of Industan. After quelling some disturbances, he continued the war against the Patanes, defeated their King in a battle, and made himself master of Bemgala. This last King of the Patanes was also called David,[3] like the Christian King from whom his predecessors had wrested Industan.[4]

The state of things in Equebar's dominions, this year, is that there are revolts, so that one may think they are for the worse rather than for the better. In Bemgala 10,000 Mogores and 20,000 Patanes have revolted. In Cambaia he is badly obeyed by Cutubdican,[5] the Captain of Baroche, and by Xaebqhan, the Captain of Amadaba,[6] two men of great importance, both on account of their lineage, and their power, their forces, valour, determination and experience. Though they have not openly declared against him, it is considered certain that they await an opportunity for rebelling and joining Amiqhan,[7] the claimant to the Kingdoms of Cambaia. He has also a great enemy in his brother, the Prince of Qhabul.

It was Cutubdican who raided the lands of Damaò—without Equebar's leave, as he affirmed many times on oath—in order, it seems, to disturb Equebar's friendship and relations with us. At Equebar's order he withdrew, for these fellows are so clever that, as long as their plan is not quite ripe, they continue in their allegiance, seeing that they cannot

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1 Peruschi (p. 14) makes them retire to the "Islands of the Bay of Bengal."

2 "Iste [Rex Persiæ] erat Xa-Thamas, qui Homayoni XII mill. electorum militum attribuit sub duce Beyran-Khan." Cf. DE LAET, *De Imperio Magni Mogolis*, Lugd. Batav., 1631, p. 159; but see ELLIOT'S *Hist. of India*, v. 219.

3 Dāud Shāh. Cf. KEENE'S *Or. Biogr. Dict.*

4 On comparison of the Portuguese text of this paragraph with the

qhabul, q̃ estam nas cõfins da P'sia/ E India, E tiueram varios encõtros · cõ os patanes, te q̃ se ensenhorearam, De todos os q̃ morauaò do indo,/ pera dentro, nas terras De qhabul, E cõtinuãdo, a guerra na india cò os patanes, Desta banda do/ Rio · Baburxâ, Auo do Equebar, lhe foi ganhando. todo, o industan, E os encãtoou em/ Bemgala · Morto Baburxa
fol. 486r.] voltaram, os patanes, sobre, Emaũxâ, seu filho,/ E fizeramno recolher, com pouca honrra, a qhabul. Vendosse desapossado, foi pedir socorro a el/Rei da Persia, o qual lhe deu, hum seu capitam, mui ualeroso, com 12 mil hoès, cõ condiçam q̃/ siguisse sua seita; Deu se Emaùxa tam boa manha, cò estes, 12 mil homeñs, E cõ a sua gente q̃ tornou/ a cobrar tudo o q̃ tinha perdido, recolhendosse os patanes, pera as terras, De Bemgala, morrẽdo,/ Emaù socedco no industan, Equebarxa, q̃ agora Reina E depois De apaziguar alguàs alteracoès cõtinuãdo a guerra, com os patanes, venceo o seu Rei em huà batalha, E ensenhoreou se De bemgala,/ chamauasse este Rei ultimo Dos patanes tam bem dauid Como o Rei Cristam, a q̃ seus antepassados,/ ganharam as terras do industan.

O estado das cousas, Do Equebar, neste anno presente, he estarem reuoltas, ẽ feicam, q̃ antes se/ pode cuidar q̃ uam pera mal q̃ pera milhor, Porq̃ em Bemgala, estam aleuãtados, 10 m l mogores, E/ uinte mil patanes, Em cambaia lhe obedecem mal, Cutubdican, capitam De baroche, E xaebqhan capi/tam, De Amadabâ, q̃ sam homeñs De grande Importancia, assi de geracam, como de Poder,/ De gente, valor, esforco, E experiẽtia. Ainda q̃ nam, se tem De todo Declarado, tem se por certo,/ q̃ esperam boa occasiam Pera Arrebentarem, E unirem se cò Amiqhan, pretenssor Dos Reinos ·/ De cambaia, tem tambem grande sobre osso, no principe De qhabul, seu Irmaò./

Cutubdican, foi o q̃ veio correr as térras, De damaò sem licenca Do Equebar., como affirmou,/ muitas vezes, cõ iuramẽto, a cõta de reuoluer, (ao q̃ parece,) a amisade, Do Equebar, E cõmunica·/cam cò nosco, Porem leuousse dellas, p̃ seu mãdado, q̃ estes sam tam sagazes, q̃ atee q̃ amadu-/rem bem a cousa, correm cõ suas obrigacoès em quãto, nam

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Spanish of Father L. de Guzman's *Hist. de las Missiones*, I, 241, col. 2, it will be seen that he did not follow Peruschi.

[5] Qutbuddīn Khān. Cf. *Āīn*, I, 333. After the conquest of Gujarāt he had been appointed to the Sarkār of Bahroch.

[6] Shihāb Khān was in Gujarāt from the 22nd to the 28th year of Akbar's reign. *Āīn*, I, 332. His full name was Shihābuddīn Aḥmad Khān.

[7] Amin Khān Ghorī, once a ruler of Surat. Cf. Elliot's *Hist. of India*, v, 438, 440, and *Āīn*, I, 516.

execute their designs. Cutubdican invaded Damaò on the plea of putting a stop to certain quarrels between our people and the Mogores, who wanted perforce to occupy certain lands near Damaò, but ours killed some of their people and made them desist. He spread the news that the Portuguese sought to invade the country and seize upon Surrate, whereas, in reality, instead of defending the King's interests, as he pretended in excuse, he wanted to avenge certain private wrongs received from the Portuguese.[1]

When Equebar joins his forces, and has no rebels to oppose him, he is very powerful. Besides the troops which his captains bring into the field, he must have 5,000 war-elephants,[2] 40,000 cavalry, and an infinite number of infantry. He has many captains who can muster 12,000 or 14,000 horse[3] and many elephants; others of 6,000 or 4,000 horse, and below that number.

In his campaign against his brother, the Prince of Qhabul,[4] he left 10,000 men in garrison in Cambaia, and 12,000 in Fatipur with his mother. To the frontiers of Bemgala he sent against the rebels a foster-brother of his, one of his relatives,[5] with 20,000 horse, and some 4 or 5 captains, each with 6, 5 or 4 thousand horse, besides some infantry and camp-followers for the baggage. In all the towns he left the necessary garrison, and took with him about 50,000 picked men, besides an infinite number of infantry and camp-followers.

On entering the enemy's territory, he left on this side of the Indo 3,000 men, on the other 1,500. His second son was sent ahead with 15,000 horse and 1,500 elephants, whilst he kept a large force of the best soldiers. Leaving the Prince at the foot of the mountains, a distance of three stages from Qhabul,[6] to guard with 2,000 men his treasure and those of his household, he scoured the country and entered the

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[1] These events, which occurred at the end of 1581 and the beginning of 1582, are related at length in Monserrate's *Mong. Leg. Comm.*, fol. 93*a. sqq.*

[2] The statement attributed to Monserrate by the Provincial of Goa that Akbar had 50,000 elephants stationed for warlike purposes at various centres of his empire (cf. *J.A.S.B.*, 1896, p. 63) is neither in this *Relaçam* nor in his *Mong. Leg. Comm.* We find it, however, in Peruschi, p. 16. Monserrate does not say either that Akbar took with him 5,000 elephants on the expedition against Mīrzā Ḥakīm, but that he kept 5,000 at his own expense. Cf. *Mong. Leg. Comm.*, fol. 51*b.* 2.

[3] I do not find in the *Āin* commands of 12,000 or 14,000. Akbar's three sons had commands ranging between 10,000 and 7,000. Cf. *Āin*, I, 238.

[4] Peruschi gives Febr. 1582 as the date when Akbar started on his campaign against Kābul. This is wrong and impossible. Monserrate says: 6° Idus Febr. 1581, *i.e.*, 8 Febr. 1581. Cf. *Mong. Leg. Comm.*, fol. 44*b.* 2. Dowson says that Badāūnī and the *Ṭabakāt-i-Akbari* go wrong in their chronology from the 22nd year of Akbar's reign. (Cf. Elliot, *Hist. of India*, V. 246.) He considers, *e.g.*, the *Ṭabakāt*,

podem, alfazer [*sic*], E fes isto ao som De/ acudir a huàs brigas, q̃ os nossos tiueram · sobre huas terras De damaò q̃ queriam comer os mogo-/res por força, as quaes os nossos lhas fizeram, desemparar, matando lhe alguà gente lancando fama,/ q̃ queriam os portugueses, correr as terras, E tomar Surrate, sendo, na verdade, por se uingar De/ certo agrauo, particular q̃ tinha, dos portugueses, recebido, E nam por respeito de seruir nisso a seu Rei/ como deu por desculpa./

Estando o Equebar vnido, com suas forcas, E sem a- 6
leuãtados, tem grande poder porq̃ afora a gẽte/ De seus capitaes, tera sinquo mil alifantes de peleiia. E quarenta mil caualos, E gente de pee infinita/ tem muitos capitaes, De 12, 14 mil caualos. E muitos alifantes, outros de seis E de 4 mil. E dahi/ pera baixo./

Quando foi sobre seu Irmaò O Principe De qhabul Deixou nas guarnicoès De cãbaia 10 mil/ homeñs, em fatipur com sua may · 12 mil na fronteira de bemgala, cõtra os aleuãtados, mãdou/hum seu colaco, E parente, com uinte mil cauallos, E outros .4. ou sinquo capitaẽs, quem de seis, quẽ/ sinquo, quem De 4 mil caualos, afora alguà infantaria e bagaje, E em todas as Cidades Dei/xou a guarnicam necessaria, E elle leuaua .50. mil hoẽs escolhidos pouco mais ou menos, afora/ a infantaria E bagaje, q̃ hera infinito./

Entrando polas terras, Do immiguo, deixou a borda do Rio indo desta banda .3. mil hoès/ E da outra banda mil E quinhẽtos. Deu a dianteira, ao filho Do meyo com quinze mil ca-/ualos, E quinhentos alifantes, E ficou elle, com huà grande batalha da milhor gẽte do/ exercito, E deixou o principe cò 2 mil hoès ao pee da sserra tres jornadas, De perto/ De qhabul, cõ o tisouro, E cõ toda sua casa, correo as

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to be 1 year late for the 27th regnal year, under which Niẓāmu-d dīn Aḥmad chronicles the Kābul campaign, and whereas Niẓamu-d dīn writes: "The beginning of this year [27th regnal year] corresponded with Sunday, 15th Ṣafar, 989," Dowson notes: "This should be 990 (11th March 1582)." Cf. *ibid.*, pp. 421—427. Father Monserrate's date "8 Febr., 1581," which admits of no doubt, shows that Dowson's corrections and the chronology of the *Akbar-nāma* from the 22nd regnal year should be reconsidered. Niẓāmu-d dīn Aḥmad took part in the Kābul expedition. Cf. *ibid.*, p. 424.

[5] 'Azīz Kokah's mother was Akbar's wet-nurse, and, though often offended by his boldness, Akbar used to say: "Between me and 'Azīz is a river of milk which I cannot cross." In the 25th year of Akbar's reign, he was promoted to a command of 5,000, got the title of A'zam Khān, and was sent to Bengal and Bihār to quell the disturbances which had broken out there. Cf. *Āīn* I, 321, 326. One of his sons and daughters had married a daughter and son of Akbar's, as we find in the Jesuit authorities. Cf. *J.A.S.B.*, 1896, p. 86, *n.* 2

[6] Jahāngīr, then "14 years old," was left at Jalālābād. Cf. *Mong. Leg. Comm.*, fol. 80*a*. 2.

city of Qhabul without striking a blow. His brother offered some resistance, however. He fought the vanguard of the younger prince which consisted of 40,000 horse;[1] but, when he saw the elephants and other cavalry, on which he had not counted, come to the rescue, he lost heart and hid himself in certain very high mountains. On the other side of the Indo there are some independent mountain-chiefs disposing of 12,000 or 14,000 horse, who came all of them to offer him their services and were ready to accompany him.

The horses of the Moors are Turkish or Osbaquis; they have others from Tartary, which are strong, but without beauty and brightness of colour.[2] The King and the great Captains have Arabs, many of them, and of excellent quality. The gentoos ride country-breds, for they do not fight on horse-back, their weapons being short lances like darts, and rodels or circular shields. When they come upon the enemy, they jump down, and do what they can with their short lances. The Moors fight with Turkish bows, with which they do harm while they beat in retreat. Their arrow on the string, they face about to the left and shoot, while their horses gallop on at full speed. Their infantry is armed with muskets, and sometimes with bows and arrows, or with sword and shield. But, they are a low, craven set, and do much less than the cavalry, which is the back-bone of the army.

On the expedition he took with him 28 field guns, none for siege operations. Each of them was the size of a hemisphere.[3] These were in the van. He had also with him 50 elephants, each with four musketeers, placed on certain appliances, like children's cradles, with a balcony which they can turn in any direction they like. These musketeers discharged bullets of the size of an egg.

The war-elephants have their forehead covered, some with plates of metal others with rhinoceros-hide,[4] others with cotton-tow, and their conductors have side-arms, or breast-plates, or cuirasses and coats of mail, and they have with them some companions with bows and arrows and muskets. The elephants go in the rear, and when there is danger, a body of them is detached by one side or the other, or both, according as they are wanted to drive the enemy off. They are never placed in the van, because they prevent seeing the

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[1] A clerical error. Read 4,000. Cf. *Mong. Leg. Comm.*, fol. 78*b*, 3, where we read that Mírzá Ḥakím attacked with 15,000 men the vanguard of Pahárí's forces, led by Nuram [Naurang] Khán, son of Qutbuddín Khán; but he withdrew on the arrival of Mán Singh.

[2] Peruschi writes (p. 17): "I Mori, cioè Mahomettani, *Bacheni*, & altri popoli, che confinano co'i Tartari, usano caualli, che fanno uenire di Tartaria." It is likely that he took the first syllable of Osbaqui to be an article, and thus obtained *Bacheni*, or did he find *Balcheni* in his original?—On horses and the places they came from,

Pol. 486v.] terras E entrou pacificamẽte E sem// Resistencia na cidade, De qhabul, porq̃ o Irmaò postoq̃ fes/ rosto, E peleijou com a uãguardia Do infante q̃ heram 40 mil cauallos · como uio Arrebentar o so-/ corro dos alifantes, E caualaria de q̃ naò sabia Desacorcoou, E fugio, E embrenhou se, em huàs serras/ mui altas, Da outra banda do indo, Na serra ha algũs senhores, absolutos, de 12 . 14 mil caualos,/ os quaes todos se uieram a oferecer, E acõpanhar./

Os caualos Dos mouros sam turquiñs E osbaquîs E outros, 7
caualos da tartarea, fortes, mas pouco airosos,/ nem lustrosia da cor, elRei, E os capitaès grandes tem cauallos arabios, muitos, E mui boñs os gẽtios ca-/ualgam em os caualos da terra, porq̃ nam Peleiiam em cima Delles, porq̃ suas armas sam lã-/cas curtas a maneira de dardos, E Rodelas ou broqueis, E como chegam os immigos poẽsse no chaò/ E fazem o q̃ podem com suas lancinhas, os mouros peleiiam com arcos turquescos, cõ os quaes fazem ho mal/ quando se retiram, porq̃ embebem o arco, E uirando sobre o braco esquerdo, atiram, corrẽdo o cauallo,/ cõ toda a forca, a infantaria pelleiia com espinguardas, E alguàs vezes cõ arcos E frechas, E outra cõ espa-/da E rodella, porem he a gente baixa é de pouco animo, E he muito menos q̃ a caualeria q̃ he a força/ Do Arraial./

Leuou a esta guerra uintoito pecas De campo, E ñhuà de bater, a maior dellas hera huà meia espera,/ estas hiam na dianteira, leuou tambem . 50 . alifantes, cò cada hum, 4 spimguardoès, sobre hunś/ certos aparelhos E maneira de berço de mininos, com sua uaranda q̃ podiam iugar p̃ra onde quisesẽ/ E lancauam hum pelouro, como hum ouo./

Os alifantes de peleiia hiaò cò suas testeiras, alguàs cubertas De laminas, outras De couro dãta/ outros De estofados dalgodam, E os q̃ os gouernauam, armados de armas brancas, ou de laminas/ ou de couracas, E saias De malha, algùs còpanheiros, com arcos, E frechas, E espinguardas, os ali-/fãtes vem na retaguarda. E quando ha aṗto lancam huà manga delles, por hum corno, ou por outro/ ou por ambos segundo a necessidade, pera fazer retirar os immigos E nunqua os poem diãte da/ batalha, parte porq̃ tolhem a uista

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cf. *Āīn*, I, 132-133. "Droves after droves arrive from Tūrān and Irān, and there are now-a-days twelve thousand in the stables of His Majesty."

[3] "Erant autem octo et viginti, castrensia tormenta, sed ad quatiendos muros inepta, quorum maximum Hemisphæram (ut vulgus militarium ait) non æquabat." Cf. *Mong. Leg. Comm.*, fol. 44*a*. 2.

[4] The *anta* (Port. and Span.) is the Brazilian tapir, an animal not found in India. Compare with Yule's *Hobson-Jobson*, 1886, *s.v.* Ganda, and see App.

enemy, and when they are wounded, they turn upon their own people, throw them into disorder and trample them to death.

Though they do much harm even when unarmed, swords are fixed to their trunk, and daggers to their tusks. With their proboscis they seize the enemy and either fling them aloft, or strike them to the ground, or cast them under their feet, where they pull and rend them in twain Equebar never engages all his forces in battle. If he shows himself with 5,000 men, he has 20,000 lying in ambush, and others behind them. If the van is victorious, those in the rear come and improve the situation. If they are defeated, the rear-guard sustains the brunt of the enemy, whilst those who are routed make safe and rally. He has also in his army many Baloches, mounted on camels,[1] and fighting with bows and arrows. When he marches through his own territory, the army goes along without order, all kinds of handicraftsmen and merchants following in their wake, so that when they pitch their tents, the camp looks like a well-planned city, and nothing is wanting for managing the people, no more than if they were at Agrâ or at Fatipur. When he mounts his horse, the guard on duty that day wait on him, forming a line of a league in length, a line of cavalry, another of elephants.[2] The king advances at a stone's throw from the army, a party of mounted scouts going in front, while behind comes a battalion of cavalry followed close by the elephants. Near the king there is always a body of musicians playing trumpets, *anafis*[3] and kettle-drums,[4] but on the march they beat only one drum.

The lands which he conquers he does not properly bestow on any one, nor are there hereditary estates among the Mogores. All the lands belong to the King. The rest of the people is subject to the Lords and Grandees to whom he gives the lands, with a certain salary, and they remain on them as long as he pleases. When he thinks good, he removes them and appoints them to other places, always having regard to the number of soldiers whom each one has in his service. A captain of 12,000 men receives a province or district, which, over and above his pay, will easily maintain that number of people. The Lord then distributes the

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[1] The *Âîn* I, 143—148, devotes several chapters to camels.

[2] "Dum Rex *moratur*, duobus ordinibus in seriem, ab aulæ vestibulo, ad ducentos ferme passus, distincti, altero quidem elephantum, armis, quibus a telorum iniuria, sint tuti, diligenter obtectorum, altero, equitum sagittariorum, et pilatorum, levis armaturæ (nam ferro tectis et munitis equis ac militibus caret) Regem operiuntur, ac prætereuntem, suo quisque loco, atque ordine salutat." Cf. *Mong. Leg. Comm.*, fol. 45*b*. 1. It would seem, then, that the

dos immigos, E se feridos, uiram, desordenam, E a-/tropellam sua propria gẽte /

Amarraò lhe espadas na tromba, ou adagas nos dẽtes, aindaq̃ desarmados fazem muito mal. Cõ a trõ-/ba, botando os q̃ alcancam huś pera o ar, outros marrãdo, cò elles no chaò, outros põdo os de baixo/ dos pes E arrebentando os, ou fazendo os em dous pedacos, numca apresenta batalha cò toda a gẽte/ q̃ tem, se mostra seis mil hoès tem uinte mil em cilada, E detras destes outros. Se uencem os de diãte,/ uem se melhorando os de detras, se sam vencidos, tomam estes o impeto dos immigos, e poẽ se em sal-/uo os q̃ vem fugindo, E fazem se em hù corpo, leua tambem muitos baloches, q̃ peleijam em Ri-/ba de camelos cò arco E frechas. Quando marcha por suas terras vai o exercito, Desordenado, E vaò nelle/ toda a sorte de officiaes E mercadores, De modo q̃ assẽtando, o Arraial parece huà cidade bem/ ordenada, E naò falta nada pera o meneo da gente q̃ nelle uai, como [3] se estiuessem em Agrâ ou em/ Fatipur. quando caualga, esperao a guarniçam daquelle dia posta em fieira huà legoa em còpri-/do, huà fieira de gente de cauallo, E outra de alifantes. Marcha elRei, hum tiro De pedra apar-/tado da gente, leuando algùs corredores diãte, E vem detras a caualaria em hua Batalha, E detras/ Della os alifantes dando costas, vem sempre p̃to delRei, trombetas, Anafis, tabales,/ porem marchando, naò vem tangendo mais q̃ hum atabala./

[Fol. 487r.] As terras q̃ ganha naò nas da de uero [?] a nimguem, nem ha morgados entre os mogores, todas as// terras sam delRei E a mais gente he dos senhores, E grandes aos quaes daa as terras cõ certa/ pensam, E estam nellas ate sua merce, E quando lhe parece os, tira E poem em outras, tendo Respeito/ a gẽte de obrigacam De cada hum, a quem tem 12 mil hoès dalhe, huà prouincia ou comarca/ q̃ possa cõmoda mẽte sostentar aquella gẽte, fora sua pensaò, E o senhor reparte as uillas, E aldeas/ entre os capitaeis seus inferiores, porem, as iusticas sam postas por elRei, E a cada hum destes senhores,/ grandes, emcarega lhe certos alifantes, oncas, camelos, E cada anno,

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guard was drawn up in this way at the beginning and at the end of the day's journey.

[3] The *Āīn*, I, 51, mentions the *nafir* among musical instruments. "The *nafir*, of the Persian, European and Indian kinds, they blow some of each kind."

[4] On the *naqīr* and *naqqārah* or kettle-drum, see Yule's note in *Travels of Marco Polo*, London, 1874, I, p. 331.

towns and villages among his subaltern captains—for the judges are appointed by the King, and every one of these Lords is placed in charge of a certain number of elephants, ounces and camels, whom he sends every year to the Court, for the king's inspection.[1]

In his palace he keeps many workmen always engaged in the manufacture of muskets and swords.[2] In his army he has Mogores, Coraçones [Khurāsānīs, i.e., Persians], Turquimaes, Baloches, Gusarates, Patanes, Industanes, and Gentoos. He has more confidence in the last than in any others, and because he is, on this account, considered a *Cafar* [Kāfir], which means a man without religion, his people are continually in revolt against him. His dominions being very large and extensive, he draws great revenues in drugs, spices, precious stones, metals of all kinds, pearls, civet,[3] stuffs, carpets,[4] brocades,[5] velvet, cotton-cloth, horses, which are imported in great numbers from Persia and Tartary. He has great treasures, because the King inherits all the property of his deceased captains.

The occasion of Akbar's conceiving a liking for our faith was the courteous and civil behaviour, as also the valour of some Portuguese, who accompanied Antonio Cabral, when, by order of the Viceroy Don Antonio, he went to see him at Çurrate.[6] These favourable dispositions were increased some years later, when he heard what was being done in Bemgala by two Fathers of the Society, who had gone thither in the year [15]76.[7] After this he had Pero Tavares (the captain of Porto Pequeno) at his court, and what he heard him say made him desire to be informed about our affairs. He ordered to bring to his Court Father Julianes Pereira, now governing the Bishopric of Cochim. This Father with

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[1] On the Manṣabdārs, their commands and monthly allowances, cf. *Āīn*, I, 236—247, 528—537.—"The servants (Manṣabdārs) of His Majesty have their horses every year newly marked, and thus maintain the efficiency of the army . . . If a Manṣabdār delays bringing his men to the muster, one-tenth of his *jāgīr* is withheld." *Āīn*, I, 256.

[2] On Akbar's arsenal, cf. *Āīn*, I, 109—116. In the infantry, "there are 12,000 Imperial matchlock-bearers." *Āīn*, I, 251. "The fourth part of the Dākhilī troops are matchlock-bearers." Cf. *ibid.*, I, 254.

[3] On civet and the manner of preparing the perfume, cf. *Āīn*, I, 79.

[4] *Taṣçilahs* are described in the *Āīn*, I, 93, 94, as stuffs from Mecca. Some of them were gold stuffs, others silk, etc., or plain.

[5] A list of brocaded velvets from Yazd, Europe, Gujarāt, Kāshān, Herāt, Lāhor, Barsah, with their prices, is given in the *Āīn*, I, 92.

[6] As Don Antonio de Noronha governed at Goa between 1571 and 1573, Cabral's embassy must have taken place within this interval. Abul Faẓl dates Akbar's first introduction to the Portuguese to the 17th year of his reign (1573), when Akbar was besieging Surat. Cf. *J.A.S.B.*, 1904, pp. 52-53. DANVERS' *The Portug. in India*, II, 4, does not accurately define the chronology of these events. J. BIRD's *Hist. of Guzerāt* translated from the Persian of Alī Mohammed

cada hum manda a corte estes ali-/fãtes & cæt · pera os elRei uer./

No paco tem muitos officiaes, De espinguarda E de espada, q̃ cõtinuamẽte, trabalhaõ em/ seus officios · traz em seu campo, mogores, coracones, Turquimaes, Boloches, gusarates, Patanes,/ Industanes, E gẽtios, E destes se cõfia mais q̃ de nimguem, E por esta causa sendo elle auido por Cafar./ q̃ quer dizer homem seml ei, nã se acabam de aleuãtar cõtra elle. Tem dessuas terras mui grossas rendas,/ porq̃ sam ellas mui grossas, E de grande trato, De drogas,/ especearias, pedras pretiosas, metaes De/ toda a sorte, aliofar, algalia, panos, alcatifiças, borcados, ueludos, Roupa dalgodam, caualos,/ q̃ uem em grãde cãtidade da persia. E tartarea, tem grãdes, tisouros Porq̃ toda a faz^{da} dos ca-/ pitaès q̃ morrem, a herda elRei./

A ocasiam de se affeicoar a nossa lei foi, ver o primor, policia, E valor de alguñs portugeses, q̃ acõ-/panhauam Antonio cabral, quando o foi uer a currate, por mãdado, do VisoRei, Dom Antonio, E al-/ guñs annos dipois o q̃ ouuio dizer q̃ faziam em bemgala, dous padres da cõpanhia q̃ la foram,/ no anno de 76., E dipois teue a pero tauares (capitam do porto pequeno) na sua Corte, E polloq̃/ lhe ouuio desejou de se imformar de nossas cousas. E mãdou trazer assi o P. Julianes pereira/ q̃ gouerna agora o bispado, De cochim 9

Khãn, London, 1835, p. 318, states that Akbar began the siege of Surat on 19th Jan. 1573, and marched back to Aḥmadābād on 6th March 1573. Between these dates Cabral's embassy must have taken place. "The Viceroy [Anthony de Noronha] being come into the River of *Damam*, struck such a terror into the Enemy, who were encamped two Leagues off, that the King [Akbar] immediately sent an Ambassador to the Viceroy, to treat of Peace. The Viceroy received him in his Galley with great State, and firing all the Cannon of the Fleet; and having heard his proposals, sent back with him *Anthony Cabrall*, who concluded the Peace to the content of both Parties. The Viceroy returned to *Goa*, and the *Mogol* settled himself in the Possession of the Kingdom of *Cambaya*, cutting off the Head of the Traitor Itimitican, a just Reward of his Villany." Cf. Faria y Sousa, *The Portugues Asia*, London, 1695, Vol. II, Pt. III, Ch XII, 9, p. 323 (abridged from the Portuguese). Peruschi, du Jarric and Bartoli must be wrong when speaking of an embassy of Cabral's in March 1578. In March 1578, Father Julian Pereira arrived at Fatḥpūr.

7 Peruschi says (p. 29) that these two Jesuits had come *from Europe* in 1570, but one of them was called Antonio Vaz (*Oriente Conquistado*, II. Conq. I, D. II, § 44), and no such name appears in Franco's *Synopsis Annal. Soc. Jesu in Lusit.* about that time.

great zeal made him know much concerning the law of the Gospel, and his good example disposed him favourably towards it.[1] He gave so many indications of his willingness to embrace it that it was the reason why in Bemgala the rebels were up in arms, because the king wanted to abandon their sect, and why they called the Prince of Qhabul to enter into league with him. In fact, he advanced a hundred leagues into Equebar's territory, and did not leave it until [Equebar] marched against him with the powerful army of which I spoke above. A year before this war with Chabul broke out, he ordered to call the Fathers of the Society, who were sent to him. He treated them always with much affection, bestowed many favours on them, and listened many times to the things of our holy Faith. He showed much inclination for them, but what he has in his heart God alone knows.[2] He is in a quandary: if he leans towards us, he has the Moors against him; if he does not declare himself more openly, he makes us believe that it may be all deceit, and for other reasons tending little to the service of Our Lord and the peace of these States.[3] May Our Lord enlighten him, and give him grace, so that he may profit by what he has heard.

Since I spoke above of Mount Cumaum, I shall, before putting an end to this information, give an account of a certain nation of Gentoos living on it. It is something new and curious.

In the interior of those mountains live certain gentiles called Botthant.[4] They wear felt, cut to the shape of the

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1 Pero Tavares went from Bengal to Fathpūr, whither he had been called by Akbar. (Cf. S. Manrique, O. S. A. *Itinerario delas Missiones*, Roma, 1649 and 1653, Ch. IV.) He obtained important concessions for the Portuguese in Bengal, and became their first "Captain" at the newly conceded settlement of Huglī, or Goli, as it was then called. He must have arrived at Fathpūr in 1577, since Fr. Julian Pereira, who was called from Sātgāon in consequence of Tavares' discussions with Akbar, arrived at Fathpūr in March 1578. (Cf du Jarric, II, Livre IV, Ch. IX, and L. de Guzman, *op. cit.*, I, 243.) Akbar's letter inviting the Jesuits of Goa to come to his court is dated December, 1578. Cf. *Oriente Conq.*, II, Conq. I, D. II, § 43. Pereira was still at Fathpūr when Aquaviva arrived, and some of Tavares' men had taken service under Akbar. Monserrate states that (in Sept. 1579?) Pereira had been one year and a half at Court. (*Mong. Leg. Comm.*, fol. 6*b*. 2). Pereira's name is given as Gileanes Pereyra by de Sousa (*Or. Conq.*, II, Conq. I, D. II, § 44), as Giuliano Perreira by Peruschi (*op. cit.*, p. 29), as Egidio Anes Perreira by Bartoli. (*Missione al Gran Mogor*, Roma, 1714, p. 9.) Monserrate calls him also "Ægidius Joannides, Gangaridis Archimystes" or simply Ægidius. Cf. *Mong. Leg Comm.*, Index and fol. 21*a*. 3. Ægidius is the Latin form for the Spanish Giles. His name is not in Padre Casimiro Christovão de Nazareth's *Mitras Lusitanas no Oriente*. The Partab Bār mentioned by Abul Faẓl as having come from Bengal in the 23rd year of Akbar's reign (1579) is evidently Pero

o qual com muito zelo, lhe deu muita notitia da lei euã-/ gelica, E com seu bom exemplo, o affeicoou a ella, De maneira, q̃ deu tãtos sinaẽs de a q̃rer/ aceitar, q̃ foi causa De em bemgala, darem cor os aleuãtados, q̃ se aleuãtauam porq̃ elRei q̃ria/ deixar sua lei, E chamarem o principe de qhabul, pera se lancarem cõ elle, o qual entrou cem le-/goas polla terra do Equebar, E naõ se saio dellas atee q̃ elle abalou, cõ o exercito q̃ assima/ disse. Hum anno antes de Arrebentar esta guerra de chabul, mãdou chamar padres da companhia/ os quaes lhe foram emuiados, tratou os sempre cõ muito amor. E fes lhes muitos fauores, E ouuio mui-/tas vezes as cousas De nossa sancta feë mostrou muita affeicam a ellas, o q̃ tem no coracam soo deos/ o sabe, elle esta em-talado, porq̃ se se inclina a nos, amotinaõ se os mouros, E naõ se ter mais/ Declarado fas nos cuidar, q̃ tudo pode ser fingido, E por outros respeitos, De pouco seruico De/ nosso Sñor. E quietaçam Destes estados, nosso Sñor o alumie, E lhe de graça peraq̃ se aproueite,/ Do q̃ tem ouuido./

Porq̃ em Riba falei no mõte, cumaù, direi breuemẽte, antes de por fim a esta informacam, cõta De/ certa nacam De gẽtios q̃ nelle habita, por ser cousa noua, E curiosa./

No interior destas serras, moraõ hùs gẽtios q̃ se chamaõ. Botthant: os quaes uestem feltro cor-/tado ao geito, do corpo, 10

Tavares, since the author of the *Darbār-i-Akbarī*, as pointed out by Mr. H. Beveridge, gives Tab Bārsū. Cf. *J.A.S B.*, 1904, pp. 53-54, and 1896, pp. 47-48. Blochmann (*Āīn* I, 440) identifies Bartab Bār Firingī or Partāb Firingī with the Portuguese Governor of Hugli who gave protection to Mīr Najāt. Abul Faẓl's date of 1579 is, however, fully a year out. Tavares was still at Fatḥpūr in 1579, since the two Jesuits in Bengal asked through him that the arrears of custom-duties to be paid by the Portuguese merchants should be remitted "up to the present year, 1579." Cf. DE SOUSA, *Or. Conq.* II, Conq. I, D. II, § 44. We learn also that Akbar's letters received at Goa in Sept. 1579 were accompanied by others from Father Pereira and Tavares. The letters of Tavares were probably dated from Fatḥpūr. Monserrate calls him, perhaps by anticipation, "portus prætor," i.e., Captain of the port of Hugli. Cf. *Mong. Leg. Comm.*, fol. 6*b*. 3.

[2] The best materials for a study of Akbar's religious views are in the *Āīn* I, pp. 162—167, with Blochmann's copious notes, pp. 167—213, and, as shown by Mr. H. Beveridge (*J.A.S.B.*, 1904, p. 49) in the historical parts of the *Akbar-nāma*, Vol. III, p. 298 of the *Bibl. Ind.* edn., or Vol. III, p. 140, of the Cawnpore edn. Cf. also *Jo. Bomb. Br. of R.A.S.*, 1841-44, pp. 57, 60-63.

[3] Understand: Portuguese India.

[4] The passage which follows refers to the Tibetans. Mr. E. D. Maclagan was led, by de Sousa's inaccurate description of the Bot-

body and stitched on quite close, which they do not take off until it rots on them and falls to pieces. On their head they wear certain pointed hoods of the same material. They never wash their hands, and they give, as their reason, that it is improper to defile so limpid and beautiful an element as water. They marry only once, and then one wife only. When they have two or three children, they live like brother [and sister]. When one of them dies, the one who survives does not remarry. They have no idols, and live in clans like the Brazilians.

They are governed by sorcerers. When some one dies, they examine their books and consult their sorcerers, and if they are told to eat the deceased, they eat him; if they are told to burn him, they burn him, etc. Otherwise, they do not eat people. They are white, and not very tall. They fight on foot, and have no king. The greater number of them have ruddy faces and fair hair. Their weapons are bows, arrows and swords. Their dishes and porringers are pieces of dead men's skulls. They are given to alms-giving. They subsist on the making of felt, which they come to sell in a city on this side called Negarcot.[1] They come down in June, July, August and September; they cannot come down during the other months of the year on account of the snows.

Here I stop this relation. I made it as short as was consistent with truth. And that this truth may be better known, I beg of the reader to pray to Our Lord for the Fathers occupied in this ministry. From St. Paul's College of the Society of Jesus, Goa, in these parts of India, the 26th November [15]82.

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thants mentioned by Monserrate (*Or. Conq.* II, Conq. I, D. II, § 63), to identify them with the Pathāns or, perhaps, the Bhutānīs (*J.A.S.B.*, 1896, p. 55 and *n.* 3). Mr. H. Beveridge pointed out (*J.A.S.B.*, 1906, p. 331) that the Bottanese of Aquaviva were the Bhotias of Almora and Garhwāl, or the Tibetans. Monserrate's map in *Mong. Leg. Comm.* removes all doubt. It places Both and the Botthanti beyond the Himālayas, near Lake Manasarowar. Compare this passage with the description taken by Purchas from du Jarric, or Peruschi. Cf. J. Talboys Wheeler's *Early Travels in India*, Calcutta, 1864, p. 14.

E cozido mui iusto sobre elle, o qual naò despem ate q̃ apodresse se nelle,/ E cae em pedacos, na cabeca trazem hùs carapuçoès agudos, do mesmo; nũqua lauaò/ as maòs E dam por Rezam, q̃ nam he bem çujar, huà cousa tam clara, E fermosa, como he a agoa,/ naò casaò mais q̃ huà huà ves, com huà soo molher, E como tem dous ou tres filhos uiuem como Irmaòs/ morrẽdo hum delles o q̃ fiqua nam torna a casar, naò tem idolos; uiuem em cabildas como os brasis.//

[fol. 487v.] Sam gouernados por feiticeiros, quando algum morre, olhaò seus liuros, E cõsultam seus feiticeiros/ E se lhe dizem q̃ comam o defunto comemno, se dizem q̃ o queimem, queimamno, &cæt. & doutra manra naò comẽ gẽte. Sam hoès brãcos/ De feitio, naò muito altos De corpo peleiiam a pee, nam tem Rei entressi os mais delles sam vermelhos/ De rosto, E cabellos louros, suas armas sam/ Arcos, frechas, espadas, seus bacios, E escudelas em q̃/ comem sam pedacos de cascos De caueiras De mortos, sam dados a fazer esmola, viuem de fazer feltro,/ E vem a uender a huà cidade, desta banda q̃ se chama Negarcot. E vem a baixo, em Junho, Julho/ agosto, E setembro, fora destes meses nam podem uir por causa das neues./

Aqui ponho fim a esta relacam, aqual fis o mais sumariamẽte, q̃ pude salua a verdade. De quem/ a milhor souber, peco a quem a ler, q̃ Rogue a nosso Sñor pollos padres q̃ neste ministerio se occupaò./ Feita neste Collegio De sam Paulo De goa Da Cõpa De Jesus, nestas partes da india em 26. De Nouẽbro. De 82.//

Endorsement: Mogor./ Relacaò do Equebar Rey/ dos mogores / 1582./ 2a Via./

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[1] Peruschi states that they came down to Nagarkoṭ (Kangra) and *Kalanũr*. The mention of Kalanũr would alone show that his copy of the *Relaçam* was different from mine. Monserrate heard about the "Botthants" while at Kalanũr; whether he met any, he does not say. Cf. *Mong. Legat. Comm.*, fol. 60*b*. 3. Akbar went out of his way to Nagarkoṭ to punish its unruly chief (1581). Monserrate does not appear to have accompanied him.

20. Note on the Secular Cooling of the Earth and a Problem in Conduction of Heat.

By D. N. Mallik, B.A., Sc.D., F.R.S.E., *Prof., Presidency College. Communicated* by Sir Asutosh Mukhopadhyaya.

In a celebrated memoir, Thomson (Lord Kelvin) applied, as is well known, Fourier's theory of conduction of heat to a determination of the probable age of the earth. The main line of his argument may thus be stated.

The solution of the equation (in one dimension)—

$\frac{\delta v}{\delta t} = k \frac{\delta^2 v}{\delta x^2}$, v being the temperature, and t the time,

is $$v = \Sigma A_n e^{-kn^2 t} \cos nx \qquad (1)$$

where v_0 = the initial temperature $= \Sigma A_n \cos nx$. (2).

Now, since v_0 is an actual temperature, the series on the right-hand side of (2) is necessarily convergent.

$\therefore$ the series (1) for v is also convergent for all positive values of t.

For negative values of t, however, the series may or may not be convergent and the particular value of t for which the series ceases to be convergent gives a superior limit to the admissible value of t.

The above reasoning, therefore, starts on the assumption that the present distribution is due to a certain initial distribution of temperature of every point of the body which is being lowered by conduction, that is, "the earth is merely a warm chemically inert body cooling." If this is granted the solution of the problem will depend on the initial temperature as well as on the boundary conditions. And without actually obtaining it, we may easily see that there would be "a superior limit (in the words of Maxwell) to the antiquity of the observed order of things."

Without considering the problem in its general form, we may obtain sufficient information, as was shown by Thomson in a later paper ("On the Secular Cooling of the Earth") by considering it in the following manner :—

Let the two regions separated by a plane ($x = 0$) in an infinite solid be initially at temperatures, v_1, v_2

$$\text{then } \frac{\delta v}{\delta x} = \frac{v_1 - v_2}{2\sqrt{\pi k t}} e^{-\frac{x^2}{4kt}} \qquad (3)$$

is the first integral of (1); and for $k=400$, a foot and a year being the units (assuming the average value of k to be equal to that found by Thomson for certain specimens of rocks), $\frac{\delta v}{\delta x}$ will be negligible if $t=10^9$, except for a comparatively small thickness (about 568 miles). Thus, the variation is confined to a thin crust and therefore the solution will be applicable to the earth for 10^9 years. Moreover the heat gradient given by (3) appears to be of the same order as that found in experiments on underground temperature. Taking account of the possible variations in the value of k, the limiting time was taken by Thomson to be 4×10^9 years.

The discovery of radium with its peculiar properties fundamentally alters the problem. We have to conceive nucleü of highly concentrated energy disseminated through the mass of the earth and giving out heat very slowly.

From this point of view the following problem is of interest.

(1) Conceive a sphere (centre, origin) in an infinite homogeneous solid at every point of whose surface the temperature is γ_n, $(x^1y^1z^1)$ where γ_n is a solid harmonio of degree n, at $t=0$, to find the subsequent temperature at every point (r, θ) of the solid.

(2) Let the temperature at the surface at time t be $\frac{1}{a} f(t)$ to find the temperature at any point at t.

(1) The solutio

$$\frac{\delta v}{\delta t} = k \nabla^2 v, \text{ where } \nabla^2 = \frac{\delta^2}{\delta x^2} + \frac{\delta^2}{\delta y^2} + \frac{\delta^2}{\delta z^2}$$

with the specified condition is

$$4\pi t v \sqrt{k} = \frac{1}{2k\sqrt{\pi t}} \int e^{-\frac{(x-x^1)^2 + (y-y^1)^2 + (z-z^1)}{4kt.}} \gamma_n(x^1 y^1 z^1) dS.$$

$$= \frac{1}{2k\sqrt{\pi t}} e^{-\frac{r^2+a^2}{4kt}} \int e^{\frac{xx^1+yy^1+zz^1}{2kt}} \gamma_n(x^1 y^1 z^1) dS.$$

$$= \frac{1}{2k\sqrt{\pi t}} e^{-\frac{r^2+a^2}{4kt}} \int e^{\frac{ra\cos\theta}{2kt}} \gamma_n(x^1 y^1 z^1) dS.$$

$$= \frac{1}{2k\sqrt{\pi t}} e^{-\frac{r^2+a^2}{4kt}} \cdot \Sigma \int A_n P_n(\cos\theta) \cdot \gamma_n(x^1 y^1 z^1)\, dS.$$

(say) (where θ = the angle between x, y, z and x^1, y^1, z^1, and P_n, a surface harmonic)

$$= \frac{1}{2k\sqrt{\pi t}} e^{-\frac{r^2+a^2}{4kt}} \cdot A_n \cdot \frac{4\pi}{2n+1} \cdot \gamma_n(x_0 y_0 z_0).$$

where x_0, y_0, z_0 is the *pole*:

$$= \frac{1}{k\sqrt{\pi t}} \; \bar{e}^{\frac{r^2+a^2}{4kt}} \; . \; \gamma_n(x_0 y_0 z_0) \; . \; \frac{d^n \sinh(u)}{(du^2)^n} (2u)^n \quad (4)$$

For, (J being a Bessel's function)

$$\sqrt{\frac{-}{\pi}} \; \frac{J_{n+\frac{1}{2}}}{(2u)^{n+\frac{1}{2}}} = \frac{d^n\left(\frac{\sin u}{u}\right)}{(du^2)^n},$$

$$P_n \frac{d}{d(iu)} \left(\frac{\sin u}{u}\right) = i^n . \left(\frac{\pi}{2u}\right)^{\frac{1}{2}} J_{n+\frac{1}{2}}$$

and
$$2\frac{\sin u}{u} = \int_{-1}^{1} e^{-iu\mu} d\mu \; . \; [\mu = \cos\theta]$$

$$\therefore 2P \frac{d}{diu} \left(\frac{\sin u}{u}\right) = \int_{-1}^{1} P_n \frac{d}{diu} \cdot \left(e^{iu\mu}\right) d\mu$$

$$= \int_{-1}^{1} P_n(\mu) \, e^{i\mu u} \, d\mu \; .$$

$$= 2.i^n \left(\frac{\pi}{2u}\right)^{\frac{1}{2}} J_{n+\frac{1}{2}} \; .$$

$$= 2 \frac{d^n\left(\frac{\sin u}{u}\right)}{(du^2)^n} . (2iu)^n .$$

Changing u into iu,

$$\therefore \int_{-1}^{1} P_n(\mu) \, e^{-\mu u} \, d\mu = 2 . \frac{d^n\left(\frac{\sin iu}{iu}\right)}{(du^2)^n} . (2u)^n .$$

$$= 2 \frac{d^n\left(\frac{\sin h\, u}{u}\right)}{(du^2)^n} . (2u)^n . \; .$$

Suppose now

$$e^{\frac{ra}{2kt}\cos\theta} = \Sigma A_n P_n(\mu)$$

$$\therefore \int_{-1}^{1} e^{\frac{ra}{2kt}\mu} P_n \mu \, d\mu = A_n \int_{-1}^{1} P_n^2(\mu) \, d\mu$$

$$2 \frac{d^n \sin h\,(u)}{(du^2)^n} (2u)^n = \frac{4\pi A_n}{2n+1} \text{ where } u = \frac{ra}{2kt} .$$

(2). Changing the equation into polars and noting that v is independent of angular co-ordinates, (writing k^2 for k)

we have $$\frac{\partial v}{\partial t} = k\left(\frac{\partial^2 v}{\partial r^2} + \frac{2}{r}\frac{\partial v}{\partial r}\right)$$

or $$\frac{\partial (rv)}{\partial t} = \frac{\partial^2 (rv)}{\partial r^2}.$$

with the condition, $rv = f(t)$, $r = a$.

The solution is

$$rv = \frac{1}{2\sqrt{\pi}} \int_{-\infty}^{t} \frac{r-a}{k(t-a)^{\frac{3}{2}}} e^{-\frac{(r-a)^2}{4k(t-a)}} f(a)\, da. \quad (5)$$

To verify this, we may put as usual,

$$\frac{(r-a)^2}{4k(t-a)} = \lambda^2.$$

$$\therefore\ rv = \frac{2}{\sqrt{\pi}} \int_0^{\infty} e^{-\lambda^2} . f\left(t - \frac{(r-a)^2}{k^2\lambda^2}\right) d\lambda.$$

$$= \frac{2}{\sqrt{\pi}} \int_0^{\infty} e^{-\lambda^2} . d\lambda\, f(t) \text{ when } r = a$$

$$= \frac{2}{\sqrt{\pi}} \frac{\sqrt{\pi}}{2} . f(t) = f(t).$$

And the resultant temperature due to the two surface conditions superposed will be the sum of these, i.e. (4) and (5).

21. NUMISMATIC SUPPLEMENT No. XVIII.

Note.—The numeration of the article below is continued from p. 132 of the "Journal and Proceedings" for 1912.

108. On three Gold Coins of the 'Ādil Shāhī Dynasty of Bījāpūr.

It is a pleasure to be able to announce the discovery of three small gold coins of the 'Ādil Shāhī currency. Casts of two of these were kindly sent me last March (1912) by Mr. J. Allan of the British Museum. They are undated, but, since bearing the name of Muḥammad Shāh, they may be held to have issued during his reign, which extended from 1037 to 1067 A.H. The type of these two coins is identical with that of the same King's copper coins, described on page 684, and illustrated on plate xxxix, No. 5, of the Numismatic Supplement, No. xv. The legends on the obverse and reverse, read consecutively, form the following couplet :—

جهان زاین دو محمد گرفت زینت و جاه

یکی محمد عـــرشد دوم محمـــد شاه

The weights of the coins are 51·7 and 51·8 grains, and the diameters are between ·35 and ·4 of an inch.

They belong to Colonel Biddulph, who has presented a third specimen to the British Museum.

Now that we have definite proof of the existence of an 'Ādil Shāhī currency in both gold and copper, we may surely hope that the still undiscovered silver coins of this dynasty will soon come to light.

Mr. Cousens reminds me that Firishta, writing during the reign of Muḥammad Shāh's predecessor, Ibrāhīm II, states that "After the dissolution of the Bahmuny dynasty, the several "kings of the Deccan assumed the chutr, or canopy, and the "Khootba; but none struck coins of gold in their own name, "or sounded the nobut five times daily, excepting the King of "Golconda, styled Kootb Shāh." Briggs's Ferishta, II. 300. It thus appears that Muḥammad Shāh was probably the first of the 'Ādil Shāhī rulers to issue gold coins.

Geo. P. Taylor.

Aḥmadābād:
April, 1912.

109. The Sūrī Mint of Shāhgarh.

A local habitation and a name is required for the Sūrī Mint, Shāhgarh, which occurs on copper coins of Islām Shāh and Muḥammad 'Ādil. These coins are by no means uncommon in the eastern districts of the United Provinces and in the western portions of Bihār. The natural inference is that the mint town is to be found somewhere in the same direction. It has been suggested by Mr. Burn that the small village of Shāhgarh on the Gūmtī in the Sulṭānpūr district is the place in question. It is true that the village site is of great antiquity and that the remains of an old fort are still visible. The site has yielded coins of various types, Kushān, Paṭhān, Sūrī and Mughal; but this is not in itself an adequate reason for accepting as a mint town of the Sūrī Sulṭāns, a place which is not even mentioned in the 'Ain-i-Akbarī. Moreover we have the authority of Mr. Millett, whose knowledge of the district was unique, in support of the local tradition that Shāhgarh derived its name from the Bandhalgoti chieftain, Bikram Sāh of Amethi.

In default of any better suggestion I venture to propose the town of Sahsarām in the Shāhābād district as the site of Shāhgarh. This well-known place was the home of the Sūrī family from which Shér Shāh sprang, and it was at Sahsarām that the great monarch was buried by Islām Shāh. It may well have occurred to the latter that the regal honours attained by his family would be commemorated in a fitting manner by giving his home the name of the royal fort. It was possibly at Sahsarām that Shér Khān assumed the title of Shāh in 945 H., a fact which his son could not fail to bear in remembrance.

I have no documentary evidence in support of the theory, but the application of the name of Shāhgarh to Sahsarām may perchance be worthy of investigation.

H. Nevill,
Etāwah, 1912.

110. A billon coin of Ghiyasu-d-dīn Bahādur of Bengāl.

I obtained recently a coin which at first sight appeared to be one of the common billon issues of Ghiyaṣu-d-dīn Tughlaq. A more careful examination showed that the arrangement of the legend on the obverse differed from that of the Dehlī coins, while the reverse puzzled me completely. The coin is much worn and therefore unsuitable for photography; but the legend on both sides admits of no misinterpretation. It runs:—

Obverse.	*Reverse.*
السلطان	ابوالمظفر
الاعظم غیا [ث]	بهادر شاه
الدنیا و ا د [ین]	السلطان

Size ·6 : weight, about 50 grs.

Ghiyaṣu-d-din Bahādur Shāh of Bengāl was a contemporary of ʻAlāud-dīn Muḥammad and the coin is of exactly the same style as those struck by the latter Sulṭān.

I have not heard of any such billon coins of the Bengāl Sulṭāns, but I stand open to correction.

H. Nevill,
Etāwah, 1912.

111. On the Baroda Coins of the last six Gāikwārs.

Plates XII—XIII.

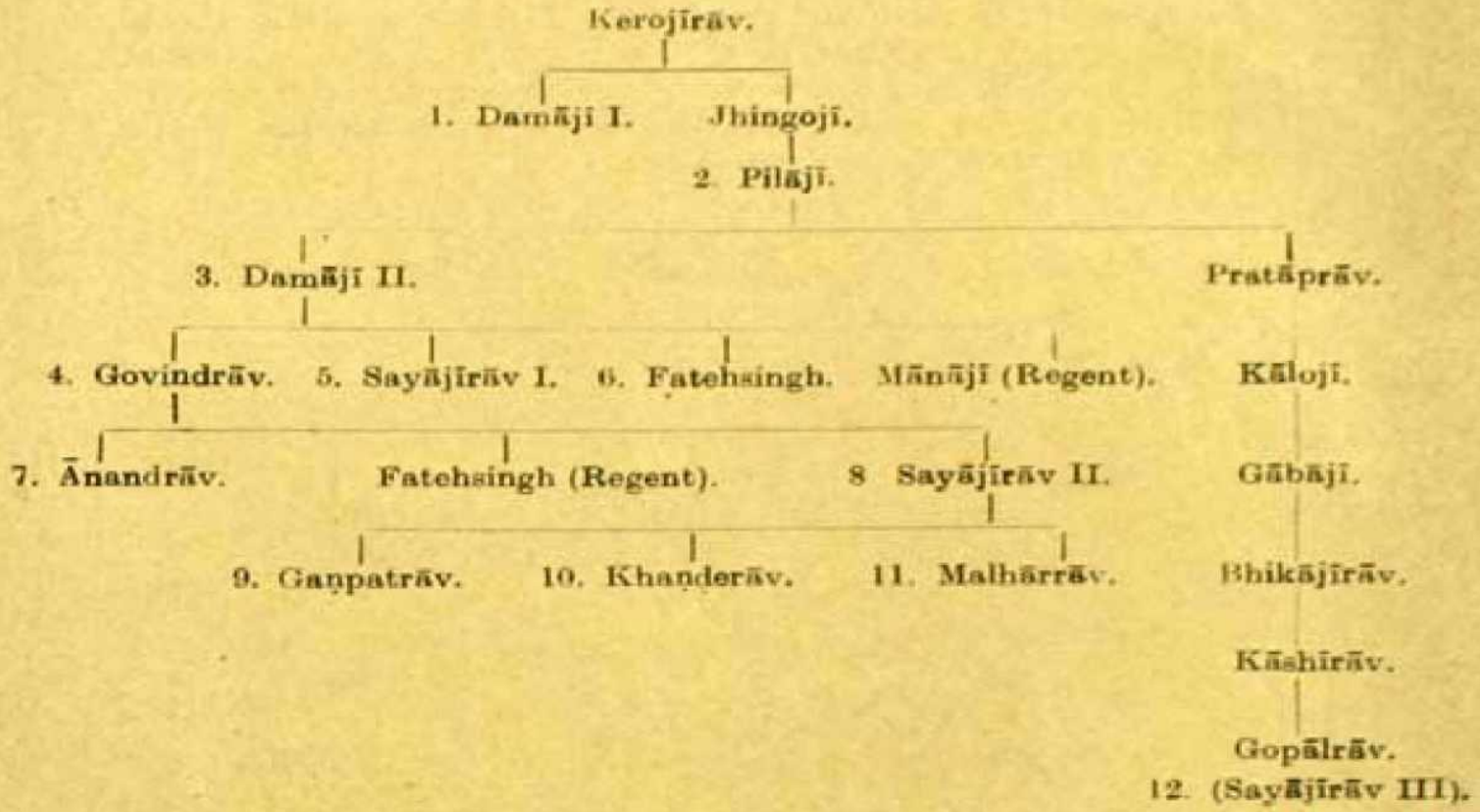
At the Coin Conference held in Allahābād in December 1910 it was resolved "that with a view to the compilation of a catalogue of the coins of the nineteenth century, collectors be asked to make notes of the Native State issues within or adjacent to their own Provinces." Now the Native State coins most in evidence in the Aḥmadābād district are those from the Baroda mint, and accordingly, bearing in mind the above request, I have for the past three months been collecting especially Baroda coins. During a delightful week spent in that city I paid repeated visits both to the Museum and to the bazars. Inasmuch as it was only some eleven years ago that the mint was closed (2nd July, 1900), I had hoped to make while there a fairly complete collection, but fortune was not very favourable, and in my search Aḥmadābād has proved quite as successful a hunting-ground as Baroda itself: yet now at the end of these three months I am in a position to report on the coins of only the last six Gāikwārs. Of the present dynasty there have been in all (exclusive of Regents) twelve occupants of the Baroda gādī, but how many of these caused coins to be struck I have not yet been able to ascertain. Simply from the absence of any earlier material, I shall in this article confine myself to a description of the coins issued at Baroda within the past hundred years, the earliest of my dated specimens being of the second regnal year of Akbar II, corresponding to A.H. 1222 or A.D. 1807. Should older coins than this come my way, I shall be happy to report on them hereafter. Unquestionably, however, the large majority of the Baroda coins now to be met with are of a date subsequent to A.H. 1222, and all of these, I fancy, will be found to be of types mentioned in the present paper. With exception of the Khaṇḍerāv Rupee A (4), all the specimens here described are in my own collection.

A history of the Gāikwārs and their times is given in considerable detail in the Baroda volume (Vol. VII) of the "Gazetteer of the Bombay Presidency," but very little indeed of the history is relevant to the legends on the coins. That little I have embodied in the notes that accompany the legends. It will accordingly here suffice to supply a dated List of the Gāikwārs and their Genealogical Tree.

List of the Gāikwārs of Baroda with the dates of their reigns.

A.D.	Name.	A.H.
—1721	1. Damājī I	—1134
1721—1732	2. Pilājī	1134—1145
1732—1768	3. Damājī II	1145—1182
1768—1771	4. Govindrāv (first reign)	1182—1185
1771—1778	5. Sayājīrāv I	1185—1192
1778—1789	6. Fatehsingh	1192—1204
[1789—1793	Mānājī (Regent)	1204—1208]
1793—1800	Govindrāv (second reign)	1208—1215
1800—1819	7. Ānandrāv	1215—1235
[1806—1818	Fatehsingh (Regent)	1221—1234]
[1818—1819	Sayājīrāv II (Regent)	1234—1235]
1819—1847	8. Sayājīrāv II	1235— 1264
1847—1856	9. Gaṇpatrāv	1264—1273
1856—1870	10. Khaṇderāv	1273—1287
1870—1875	11. Malhārrāv	1287—1292
1875—	12. Sayājīrāv III	1292—

Genealogical Tree of the Gāikwārs of Baroda.



Note 1.—Pilājī was not only nephew but also the adopted son of Damājī I.

Note 2.—After Malhārrāv's deposition, Jamnābai, widow of Khaṇderāv, adopted her distant kinsman Gopālrāv, who ascended the gādī under the name of Sayājīrāv III.

Hitherto only meagre descriptions of Baroda coins have been published. In his "Catalogue of the Coins of the Indian Museum," Mr. Rodgers registers ten silver and four copper specimens, and in Part IV of his Catalogue of Coins purchased by the Government of the Panjāb he records seven, all of copper. Only two of these twenty-one coins are of the pre-Mutiny period, and those two are undated.

We shall now proceed to describe *seriatim* the silver and copper issues of Baroda mintage from the time of Ānandrāv Gāikwār till the closing of the mint in 1900. The few small gold coins that have been struck are designed to serve not as a currency but only as naẓrāna.

ĀNANDRĀV: A.H. 1215—1235; A.D. 1800—1819.

Æ. 2—x; 4—122x; 5—1225; 7—1227; 8—1228 (two);
9—1228 (copper silver-washed);
x—1228 (half-rupee).

Fig. 1 :[1] *Obv.* اکبر شاہ

۱۲۲۸

بادشاہ غاز

سکہ عجار

Rev. مانوس

میمنت

ब्रा.

سنہ جاوس

ضرب

بروده

Upright scimitar

over س of جلوس

Weight : 176 grains.
Diameter : ·9 inch.

The regnal year as entered on these coins evidently dates not from 1215 H., when Ānandrāv mounted the Baroda gādī, but from 1221 H., the year of the accession to the Imperial throne at Dehlī of that Akbar whose name stands on the obverse. Colour was thus given to the fiction that these coins had been struck by the authority of the nominal Emperor.[2] To indicate, however, that they issued from the mint at Baroda during the reign of the Gāikwār Ānandrāv, the first letter of his name in the Devanāgarī character (ब्रा) was inserted on the reverse. To this letter was added the usual sign of abbreviation (र), whence the Devanāgarī symbol in its full form appears as ब्रार.

For the first six years of Ānandrāv's reign (1215—1221) he was a contemporary of the Mughal Emperor Shāh 'Ālam. I have no satisfactory specimen of a Baroda rupee struck during those years. A single copper specimen in the Lāhor Museum was described as follows by Mr. Rodgers :—

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[1] In describing the coins figured on the Plates, I have not hesitated to supplement their legends, if fragmentary, from other specimens of identical types.

[2] "As usual in the East, the provincial rulers, without repudiating the technical supremacy of the Emperor, became independent." S. J. Owen: "Fall of the Moghul Empire," page vii.

Obv. محمد شاه عالم

سایه فضل اله حامي دین

Rev. .....

میمنت

۴۷ kitār جلوس

سنه

ضرب

بروده

.....

Weight : 101 grains.
Diameter : ·75 inch.

Grave doubt, however, attaches to the attribution of this coin to the Baroda Mint. (Compare Narwar coins).

Mr. A. Master, I.C.S., possesses two *copper* coins of Ānandrāv's reign, one dated 8—1229, and the other 13—1233.

SAYĀJIRĀV II : A.H. 1235—1264 ; A.D. 1819—1847.

A. Silver : *R.* 22—1242 ; 35—1255 ; 38—12xx ; 24-x (half-rupee).

Fig. 2 : *Obv.* اکبر شاه

۱۲۵۵

بادشاه غاز

سکه مبارک

Rev. مانوس

میمنت

बा.

سنه جلوس

۳۵

ضرب

بروده

Upright scimitar
to left of سنه

Weight : 174 grains.
Diameter : ·85 inch.

In the 22—1242 rupee the upright scimitar stands, as in the coins of the previous reign, over the س of جلوس, and the digits of the regnal year *above* the ج.

Note.—On the half-rupee the scimitar lies lengthwise between جاوس and میمنت, and the regnal year ۲۲ comes not below but above the ج of جلوس.

In 1253 H. the Mughal Emperor, Akbar II, died, and his son Bahādur II mounted the Imperial throne, but the Baroda coins still continued even thereafter to bear Akbar's name on the obverse, and on the reverse a regnal year reckoned from 1221 H., the year of Akbar's accession. For example, though 1255 H. was really the third year of Bahādur's reign, the Baroda rupee of 1255 purports to have been struck in the 35th year of Akbar's reign. Similarly a Baroda pice of 1260 registers its regnal year as 40.

The Devanāgarī symbol on the coins, both silver and copper, of this Sayājīrāv appears not as सा (that is, स + ा), but as स ा (that is, सा + ा), whence it would seem that the first syllable of this Gāikwār's name was held to be not स (Sa) but सा (Sā).

B. Copper.

(1) Æ. 16—1236.

Fig. 3 : *Obv.* Same as A, but year 1236.

Rev. Same as A, but year 16 above ج.
and upright scimitar over س of جلوس.

Weight : 168 grains.
Diameter : ·8 inch.

The legends on this copper coin have thus precisely the same arrangement as on the rupee dated 22—1242.

(2) Æ. 36—12xx (two).

Fig. 4 : *Obv.* Same as A, but year 12xx.

Rev. सा ा
ज

To right of सा ा a stalk of
5 small branches, each tipped with
a tiny bud, thus

Weight : 158 grains.
Diameter : ·95 inch.

The Devanāgarī ज may represent, as Mr. Master suggests, the word Julūs.

Recently I have acquired thirteen more specimens of this

type. Most of them have been counterstruck, with the result that the inscriptions are deplorably jumbled. One specimen bears quite legibly the regnal year 27 ; another seems to read 28. The variety of symbols exhibited is remarkable. The five-budded stalk, associated with ज, appears on eight of these thirteen copper coins, on three a flag with streamers flying, on one a trifoliated flower, and on one a circle with twelve issuing rays.

(3) Æ. 40—1260; 40—x (two); 41—x (two); x—x (two).

Fig. 5 : *Obv.* Same as A, but year 1260.

Rev. मार्ग

۴۰ ج جلوس

ضرب

بروده

Weight : 156 grains.
Diameter : ·8 inch.

The disc shaded with vertical lines probably represents a shield, or perhaps an elephant's footprint, as suggestive of royalty, or perhaps the sun.

GAṆPATRĀV: A.H. 1264—1273; A.D. 1847—1856.

A. Silver. Æ. 44—1265; 46—12xx; 46—x; x—126x (quarter-rupee); x—x (quarter-rupee).

Fig. 6: *Obv.* اکبر شاہ

۱۲۶۵

بادشاہ غاز ی

سکہ صدار

Rev. مانوس

میمنت

मार्ग

سنہ جلوس

۴۴

ضرب

بروده

Upright scimitar to left of سنہ.

Weight: 175 grains.
Diameter: ·8 inch.

The name بروده happens not to be legible on any of the five silver specimens, but the type of these coins definitely warrants their attribution to the Baroda mint.

Though during the whole of Gaṇpatrāv's reign the occupant of the Imperial throne was Bahādur II, the Baroda silver coins bear on the obverse the name not of Bahādur but of his father Akbar II, and also on the reverse a regnal year dating not from Bahādur's but from Akbar's accession in 1221 H.

As on Sayājīrāv's so on Gaṇpatrāv's coins the Devanāgarī symbol contains a superfluous *kāno*, as though the name for which the symbol is an abbreviation were not Gaṇpatrāv but Gāṇpatrāv.

B. Copper. Æ. 46—x (two); 4x—x (two); x—x (two).

Fig. 7: *Obv.* Same as A, but Hijrī year wanting.

Rev. गा

۴۶ ◉ جلوس

غرب

بروده

Weight: 155 grains.
Diameter: ·8 inch.

The "shield," first introduced on the later copper coins of the preceding Gāikwār, is retained on these copper coins of Gaṇpatrāv.

KHAṆḌERĀV: A.H. 1273—1287; A.D. 1856—1870.

A. Silver.

(1) Æ. 53—127x.

Fig. 8: *Obv.* اکبر شاہ

۱۲۷

بادشاہ غاز

سکہ مبارک

Rev. میمنت

مانوس

खा

سنہ جلوس

۵۳

ضرب

بروده

Upright scimitar
to left of سنه

Weight : 177 grains.
Diameter : ·85 inch.

The regnal year of this coin being 53, reckoned from Akbar II's accession in 1221 H., the Hijrī year of issue, which on the obverse is imperfectly recorded as 127x, will have been 1273—74.

Here again the abbreviation symbol खा would seem to indicate the presence of a 'long a' in the first syllable of the Gāikwār's name—thus Khāṇḍerāv rather than Khaṇḍerāv. Indeed, as we shall presently see, on a coin struck in the last year of his reign his name is written کاهندیراو Kāhad erāv.

[My cabinet contains a silver-washed copper coin whose silver coating is almost entirely worn away. Being intended to pass for a rupee of Khaṇḍerāv's, both the obverse and the reverse of this spurious coin answer to the description given above. Yet it would seem to have been carelessly forged, for, though bearing the name-symbol खा, it records 50 as the regnal year of its issue, corresponding to 1270 H., or some three years earlier than Khaṇḍerāv's accession to the Baroda gādī.]

(2) The year 1274 H. (1858 A.D.) witnessed the suppression of the Indian Mutiny, and with it the deposition and deportation of Bahādur II, the titular Mughal Emperor. Right on until that year the legend on the Baroda coins testified to their having been struck by the Emperor Akbar II—a mere fiction, of course, yet a fiction retained for full twenty years subsequent to that monarch's death. But now that the last member of the Taimūrī Dynasty was banished the country, the retention of the old legend was obviously no longer possible. To have still continued the uttering of coins that carried on their face the acknowledgment of allegiance to the Dehlī overlord had been action perilously open to construction as hostility to the British Rāj. Hence it came to pass that one minor consequence of the supersession of the Mughal Bādshāhat was the abandonment by the Gāikwār of that type of coin which had for more than half a century obtained throughout the Baroda territory, and the introduction forthwith of a currency of a distinctly new order. With the end of the Mutiny also ended the Akbar Shāhī mintage of Baroda. Thus a clear line of cleavage divides the pre-Mutiny from the post-Mutiny coins, and the new type of rupee adopted at this crisis by Khaṇḍerāv Gāikwār merits detailed description.

R. 1274 ; 127x ; 1287 ; 128x (quarter-rupee) ;
x—x (eighth of a rupee).

Fig. 9 : *Obv.* (?) سنه

ख. मा

۱۲۷۴

ضرب

سنه

نرودة

Upright scimitar
to left of ख

Rev. سکه مبارک

خاص خیل
سینا

شمشیر

بهادر

Weight : 175 grains.
Diameter : ·8 inch.

The name Khanderāv is represented by its first letter 'Kh' in the Devanāgarī character, followed by a simple dot (thus ख). By its side, comes now for the first time the symbol मा, indicating Khanderāv's title of गायकवाड, Gāyakavāḍa, (*vulg.* Gāikwār). This, the family name of the founder of the dynasty, is commonly said to mean 'cowherd.'

At the very top of the obverse, directly above the ख. मा, stands some lettering, or perhaps ornamentation, which seems to be repeated just below the ب of ضرب. If it really be a Persian word, and not mere scroll-work, I can only venture the guess that it may read سنه in one or other of the two places, but surely not in both.

The reverse legend is as follows :—

سکه مبارک سینا خاص خیل شمشیر بهادر

Sikka Mubārak Senā Khāṣṣ Khail, Shamsher Bahādur : The auspicious coin of the Commander of the Special Band, the Illustrious Swordsman.

From the first year of the Emperor Shāh 'Ālam Bahādur (A.H. 1119) the term سکه مبارک comes often on the Mughal Imperial rupees. It would seem indeed to have become almost the accepted designation for the ordinary currency. Thus so early as the fifth year of Farrukh-siyar (A.H. 1128, A.D. 1716)

the farmān accorded to the East India Company decrees that, "In the Island of Bombay, belonging to the English, where Portuguese coins are current, according to the custom of Chīnāpattan, the Fortunate Coins (سکهٔ مبارک) may be struck." On a few Mughal coins the word مبارک does stand at the top of the reverse, but, so far as I can remember, the Baroda rupees are the only ones in which both terms, سکه and مبارک, occupy that position.

سپنا خاص خیل —in modern parlance "Colonel of the King's Own"—was an honourable distinction first conferred on Pilājī Gāikwār in A.D. 1731, when the Peshwā nominated him mutaʿalliq to the youthful Senāpati Yashavantrāv Dābhāde. Before ascending the gādī each Gāikwār would purchase investiture from the Poona overlord, the five lākhs paid by Fatehsing in 1778 being the smallest sum ever accepted as nazr for this title. In 1763 Damājī II defeated Niẓām ʿAlī at Tāndulja on the Godāvarī, and tradition has it that on this occasion the Rājā of Sātāra granted the Gāikwār over again the highly prized title of Senā Khāss Khail.

شمشیر بهادر, 'the Illustrious Swordsman,' was a title still earlier conferred on the Gāikwār family. Pilājī's uncle and adoptive father, the first Damājī, while an officer under the Senāpati, so distinguished himself by his personal valour at the battle of Bālāpūr in 1720, that on his return to the Dakhan the Rājā Shāhu ennobled him with this decoration of Shamsher Bahādur.

We have already seen that the pre-Mutiny coins of Baroda had in a lax sort of way indicated the regnal year of issue by reckoning it from the accession of Akbar II in 1221 H. The post-Mutiny coins, on the other hand, were content to record the Hijrī (or in quite recent times the Saṁvat) year alone, ignoring the regnal year entirely. Hence these coins show on their reverse no date whatsoever.

(3) *R.* 1287.

Fig. 10 : *Obv.* Collar round rim, enclosing dotted circle, itself enclosing the following Devanāgarī legend, written round the circumference :—

खंडेराव गायीकवाड सेना खास खेल समशेर बहादर

Above the horizontal diameter

सरकार,

and below it a scimitar, lengthwise, with hilt to left and point to right.

Rev. Within collar round rim, and dotted circle the legend

سکه مبارک

کاهنڈ او گایکوار

بر ا

۱۲۸۷

ضرب بروده

Weight : 176 grains.
Diameter : 1 inch.

The Devanāgarī inscription has altogether omitted the superscribed *mātrā* ('e' vowel), the subscribed *varaḍu* ('u' vowel), and the *anusvāra* (nasal) symbols. Thus we find

खडराव for खंडेराव.

for सेना.

खल for खेल.

समशर for समशेर (=शमशेर).

and बहादर for बहादुर.

Samsher is a quite possible Gujarātī form for Shamsher; but गायीकवाड, Gāyīkavāḍa, as found on this coin, instead of गायकवाड, Gāyakavāḍa, is, I fear, a blunder, pure and simple.

On the reverse the Gāikwār's name appears in Persian characters as کاهنڈ او بر, which, of course, reads as Kāhanderāv. In the same year 1287, however, a variant of this type of rupee was also struck, in which the letters of the name are ranged normally, and the spelling is now correct, thus لهندیراو, Khanderāv.

(4) The Baroda Museum contains three rupees and two half-rupees, of which the obverse bears the same Devanāgarī legend as is present on No. (3). The reverse just repeats, but in Persian characters, the circumferential portion of that legend. The arrangement of the words on the reverse is as follows :—

Rev. کاهنڈیراو

گایکوار سینا خاص

شمشیر بهادر

خیل

B. Copper.

(1) Æ. 5x—x ; x—x.

Fig. 11 : *Obv.* Same as A (1), but Hijrī year wanting.

Rev. खा

. . . . ٥ ۵ جلوس

ضرب

بروده

The "shield" surmounted by an object like an inverted anchor.

Weight : 130 grains.
Diameter : ·8 inch.

Both these specimens, though badly worn, in type so closely resemble the copper issues of Gaṇpatrāv, that I feel no hesitation in interpreting the few strokes still exhibited near the bottom of the reverse as scanty survivals of an original ضرب بروده. The coins are certainly of a pre-Mutiny issue.

(2) Æ. 1274 (two) ; 1275 (four) ;
1275 (half-pice, 53 grains).

Fig. 12 : *Obv.* ख गा

۱۲۷۴

ضرب

سده

بروده

Above the figures of the Hijrī year a scimitar, lengthwise, with hilt to right and point to left.

Rev. سکه مبارک

خاص خیل

سیفا

شمشیر

بهادر

Weight : 107 grains
Diameter : ·85 inch.

On the obverse the word below the ـب of ضرب and over برودہ is almost certainly ـذہ. Two of the seven specimens tend to prove, that no word similar in form was present on the die over ख. गा.

(3) Æ. 1282; 1285; xxxx (double-pice).

Fig. 13: *Obv.* ख. गा

۱ ۲ ۸۲

ضرب

برودہ

Below the figures of the Hijrī year a scimitar, lengthwise, with hilt to right and point to left.

Rev. سکہ مبارک

خاص خیل

سیدنا

شمشیر

بہادر

Weight: 119 grains.
Diameter: ·75 inch.

Between the first two digits of the Hijrī year, the ۱ and ۲, intrudes a rough representation of a horse's foot, from the fetlock downwards.

May not the explanation of the two symbols on the obverse be that the *scimitar*[1] was chosen since pictorially suggestive of the title شمشیر بہادر, written in full on the reverse: likewise the *horse's foot*, since reminiscent of that other title, there recorded, سیدنا خاص خیل, 'Commander of the Special Troop (of Cavalry)'?

The undated double-pice weighs 241 grains, and measures ·8 inch.

MALHĀRRĀV: A.H. 1287—1292; A.D. 1870—1875.

A. Silver: Æ. 1290 (two).

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[1] Skeat inclines to derive the word scimitar, or scimetar, from شمشیر See Etym. Dict *sub voce.*

Fig. 14 : *Obv.* سنه

मा मा

۱۲۹۰

Upright scimitar
to left of मा.

Rev. سکه ضرب

خاص خیل

میذا

شمشیر

بهادر

Weight : 175 grains.
Diameter : ·75 inch.

The overweighted abbreviation-symbol मा. that had obtained on the pre-Mutiny coins is now again brought into service, so that the name Malhārrāv takes the shortened form मा., as though it had been Mālhārrāv. For गायकवाड however, the correct abbreviation गा. is adopted. Thus the combined symbol comes to be मा. गा.

The flowing wave-like flourish at the very top of the obverse also reappears. It may, or may not, stand for the word میذا.

Both my specimens of this type are thick and dumpy, but had they been thin and broad, they would, I fancy, have revealed a legend identical with that on the Khanderāv Rupee A (2).

B. Copper : Æ. 1289 (four); 128x (four); 12xx (four); 1290; 1xxx; 1289 (double-pice).

Fig. 15 : *Obv.* मा. गा.

۱ ۲۸۹

ب

Below the figures of the
Hijrī year a scimitar,
lengthwise, with hilt to right
and point to left.

Rev. سکه صبار

خاص خیل

سینا

شمشیر

بهادر

Weight: 120 grains.
Diameter: ·75 inch.

As on Khanderāv's copper coin B (3) the horse's hoof, so here the shaded shield thrusts itself between the ١ and the ٢ of the Hijrī year ١٢٨٩.

The puzzling 'flourish' is absent from these copper coins, its place above the सा गा being filled by three diamond-shaped clusters of dots, thus ⁘.

The lacking portion of the obverse legend contains, I have no doubt, the words ضرب بروده, though none of my specimens of this type of coin exhibit them clearly.

The double-pice, dated 1289, weighs 240 grains, and is of ·9 inch diameter.

One of the four pice, dated 1289, was originally a pice of Khanderāv's of the B (3) type. It must, when counterstruck with Malhārrāv's die, have been subjected to a powerful blow, for, while the old obverse exhibits, faintly enough, the "horse-hoof" mark, on the other side, or the new obverse, the "shield" unblushingly appears.

SAYĀJĪRĀV III: A.D. 1292 —; A.D. 1875 —.

A. Silver.

(1) Æ. 1295; 1302; 129x (quarter-rupee); 1299 (eighth of a rupee).

Fig. 16: *Obv.* (?) سنه

सा गा

١٢٩٥

ضرب

سنه

بروده

Upright scimitar to left of सा.

Rev. سکہ مبارک

خاص خیل

سیدنا

شمشیر

بہادر

Weight : 176 grains.
Diameter : ·8 inch.

The name सयाजीराव गायकवाड, Sayājīrāv Gāyakavāda, appears in the shortened form सा. गा. as though the first element of the name were Sā.

On the obverse the wave-like lettering, that still awaits elucidation, comes definitely twice, once at the very top, and once near the bottom (over بودہ).

(2) *R.* Saṁvat 1949; S. 1954; S. 1951 (half-rupee); S. 1952 (quarter-rupee); S. 1949 (eighth of a rupee).

(*a*) Rupee with dotted milling.

Fig. 17 : *Obv.* Dotted circle round rim. Bust of Gāikwār to right, wearing tasselled turban and sarpech : coat richly embroidered. To back of bust

श्री सयाजीराव.

and to front of bust

म. गायकवाड.

Rev. Dotted circle round rim. Within wreath

एक

रुपया

१९४९

Above the figures of the Saṁvat year a scimitār, lengthwise, with hilt to left and point to right.

Weight : 176 grains.
(S. 1949 Re.) Diameter : 1·2 inch.
(S. 1954 Re.) Diameter : 1·1 inch.

(*b*) Half-rupee, with dotted milling.

Obv. Same as (*a*).

Rev. Same as (*a*) but अर्धा instead of एक and year १९५१.

Weight : 87 grains.
Diameter : ·9 inch.

(*c*) Quarter-rupee—no milling.

Obv. Same as (*a*).

Rev. Same as (*a*), but चार

आणे

instead of एक

अपया

and year १९५२.

Weight: 44 grains.
Diameter: ·7 inch.

(*d*) Eighth of a rupee—no milling.

Obv. Same as (*a*).

Rev. Same as (*a*) but दोन

आणे

instead of एक

अपया.

Weight: 22 grains.
Diameter: ·625 inch.

This new type of coin, so utterly modernized, breaks abruptly with its numismatic past. It seems no longer a genuine Native State coin at all, but just a feeble far-off imitation of the British rupee, significant of Young India's adventure into coin-land. That unconventional Oriental quaintness, which hitherto had lent a peculiar charm to the Baroda coinage, has now passed away. Moreover, despite the many changes introduced, the new coin still remains an alien production, pointedly betokening alike by its Marāṭhī characters and its Marāṭhī words the rule of a Marāṭhā within the confines of Gujarāt. Fittingly enough, it is the gold pieces of this type that serve as nazrāna to be ceremonially offered to the Marāṭhā Gāikwār.

The letter म, which on the obverse comes between सयाजीराव and गायकवाड, stands for the title महाराजा, Mahārājā.

The year of issue as entered on the reverse is now for the first time the Saṁvat year reckoned, according to the Vikramāditya era, from the vernal equinox of 57 B.C.

B. Copper.

(1) Æ. Two-pice pieces, Saṁvat 1947: S 1949.
One-pice pieces, S. 1948; S. 1949.

(*a*) Two-pice piece

Fig. 18 : *Obv.* Within linear circle.

सा. गा.

Under the " shield "
a scimitar, lengthwise,
with hilt to left and point to right.

On some specimens the " shield " is shaded not with vertical but with horizontal lines.

Rev. Within linear circle.

संवत्
१९४७
दोन पैसे

Weight : 246 grains.
Diameter : 1 inch.

On the obverse the abbreviation of सायकवाड is सा॰ ,which is quite permissible, but that of सयाजीराव should have been either स॰ or सा॰ rather than सा॰.

(*b*) One-pice piece.

Obv. Same as (*a*).

Rev. Same as (*a*), but एक पैसा instead of दोन पैसे and year १९४९.

Weight : 123 grains.
Diameter : ·9 inch.

(2) Æ. Two-pice piece, Samvat 1949.
One-pice piece, S. 1948.

(*a*) Two-pice piece.

Fig. 19 : *Obv.* Collar round rim. Between two dotted circles the legend,
in upper half

श्री सयाजीराव म. गायकवाड.

and in lower half

सेना खास खेल शमशेर बहादुर

In Area enclosed by inner dotted circle

सरकार

Under the " horse's hoof " a scimitar,
lengthwise, with hilt to left and point to right.

Rev. Collar round rim. Between two dotted circles a wavy line, entwining twelve leaves.

In Area enclosed by inner dotted circle

संवत

दोन पैसे

१९४९

Weight : 196 grains.
Diameter : 1·2 inch.

(*b*) One-pice piece.

Obv. Same as (*a*).

Rev. Same as (*a*), but एक पै सा instead of दोन पैसे and year १९४८.

Weight : 98 grains.
Diameter : 1 inch.

(3) Æ. One-pie piece, Samvat 1946.

Fig. 20 : *Obv.* Between two dotted circles round rim the legend

in upper half

श्री गायकवाड

and in lower half

बडोदे

Area same as that of 2 (*a*).

Rev. Same as 2 (*a*), but एक पै instead of दोन and year १९४६.

Weight : 41 grains.
Diameter : ·75 inch.

In order to illustrate this article representations of twराव Baroda coins are given on the accompanying plates. enthusiastic young friend Mr. Nadirshah P. Talati, o the Gujarat Arts College, was so kind as to take impressions ofamā- coins, from which Mr. Henry Cousens, M.R.A.S., late Su tendent of the Archæological Survey, with his unfailing k prepared admirable photographs. To both these gentl desire to express my warm thanks.

GEO. P. TAYL

Ahmadabad : 1911.

112. The Coins of the Kings of Awadh.

Plates XXI—XXIII.

As far as I have been able to gather no article has ever appeared dealing in any way with the series of coins issued by the Kings of Awadh. The following account cannot pretend to supply this deficiency; it is based primarily upon a collection made by myself during the past two years, and on an examination of the collection of Awadh coins in the Lucknow Museum. A manuscript catalogue of the coins of this dynasty in the British Museum was kindly sent me by the Keeper of Coins and Medals, Mr. H. G. Grueber, in using which I have had in some cases to resort to conjecture. The catalogue at the end of this article may at least be of use to collectors who possess any of these coins.

Of the collections of Awadh coins which exist in public museums, that in the British Museum (not at present catalogued in print) is the most representative: it possesses most of the types issued by the different kings in all three metals. There is a fair collection of the silver coins in the Lucknow Museum (also uncatalogued). There was a small but valuable collection among the coins of Mr. L. White King, now, I believe, in the Hermitage Museum, St. Petersburg. The scanty representatives of the series possessed by the Indian Museum and the Lahore Museum appear in the respective catalogues of those collections drawn up by Rogers.

The little interest which these coins have attracted is due probably to three reasons; they are of comparatively recent issue; there are among them very few specimens of peculiar interest or rarity; and there is, at least at first sight, a lack of variety in the series; the prescribed pattern for the year is repeated on every coin of that year whatever its denomination, in all three metals.

There are, however, among them some admirable examples of the moneyer's art, some of Wājid 'Ali's gold and silver coins, for example, the script on the obverse of which is little inferior to the script on the Moghul coins of the best period. From the artistic point of view, too, the Coronation medal of Ghāzīu-d-dīn Haidar is an interesting piece of work: while the representation of figures on the coins of Musulmāns is always a curiosity. In addition to these recommendations there are one or two problems awaiting solution.

In the history of the dissolution of the Mughal Empire, and the final supremacy of the East India Company in Northern India no province played a more important part than Oudh or Awadh. The founder of the line of Nawāb-Vazīrs, who ruled there for 137 years always more or less independently of the authority of the Court at Dehlī, was Muḥammad Amīn, better known as S'ādat Khān. He was descended from a

Saiyad family of Naishāpūr in Khurāsān. In 1720, as a reward for his services in helping to overthrow the Saiyads, he was created by the Emperor Muḥammad Shāh, Sūbahdār of Awadh; at the same time he took the title of Burhānu-l-Mulk, by which he is usually known to Indian historians. Thereupon, he left the Court of Dehlī, went off to his province, and continued to spend most of his time there, making Lakhnau and Ayodhia his chief residences. It was he who first adopted the fish as his badge; the current story relating the reason of his choice I append in the form I heard it from an old inhabitant of Lucknow: "Burhānu-l-Mulk was saying his prayers, with his hands elevated in front of him, on the banks of the Jumna, when a fish jumped clear out of the water into his hands. Just after this he received the Sūbahdārī of Awadh."

[1] H. H. Wilson, who probably never heard this story, suggested that the sign of the fish was probably adopted from the particular auspiciousness of the sign Pisces to S'ādat Khān's house.

S'ādat Khān, dying in 1739, was succeeded by his son-in-law Safdar Jang who was also created Vazīr of the Empire; the title was adopted as an hereditary one, and he and his successors became known as the Nawāb Vazīrs. Shujā'u-d-daula (1756—1775), the third Nawāb, as well as his successor Āṣafu-d-daula (1775—1797), held very important relations with the East India Company. Shujā'u-d-daula struck the medal, noticed in the Appendix in commemoration of his defeat of the Rohillas at the battle of Katrā on 23rd April 1774. In 1754 (the first year of 'Ālamgīr II) it is interesting to note,[2] he was given the charge of the Banāras Mint: four years later he seized the district of Banāras, and himself appointed an officer to superintend the mint which remained in the hands of his family till 1775 (17th year of Shāh 'Ālam), when the districts of Banāras and Ghāzīpūr were ceded to the English.

Āṣafu-d-daula soon after his succession made Lakhnau his permanent capital owing to his strained relations with his mother, the famous Bāhu Bēgam, who continued to reside at the old capital Faizābād. His successor was S'ādat 'Ali, whose son Ghāzīu-d-dīn Ḥaidar succeeded to the Nawābī on 11th July 1814 (22nd Rajab 1229). Lord Moira, after the Pindāri war, visited him in Lakhnau from March 4th–10th, 1818 (24th Rabī' II–1st Jumādā I, 1233 H.), and induced him to make himself entirely independent of Dehlī, to assume the title of King of Awadh, and to coin money in his own name. He was not crowned till the 9th October 1819 (18th Z'u-l-ḥijja 1234).

[1] Num. Chron., Vol. V (1848), pp. 129–133, Note on a Medal of the King of Oude.

[2] Note on the History of the E.I.C. coinage 1753–1835. E. Thurston, J.A.S.B., Vol. LXII, 1893, pp. 52–84.

On his coins he calls 1235 his first year (احد), and as there are apparently no coins of 1234 with احد, it seems probable that, for purposes of coinage, he reckoned his first regnal year as beginning on 1st Moharram 1235, not considering it worth while to alter the date merely for ten days.[1] During the year 1234, however, two kinds of coins had already appeared. One issue he had coined in the name of Shāh 'Ālam, and had adopted for the obverse of his coins the legend on the reverse of the Banāras rupees of the 26-san issue[2] (1211–1233 H.) which had been superseded in that very year in Banāras by rupees of the Farrukhābād type. These coins also retain the 26 san on the reverse. The second issue has the date 1234 on the obverse and the year 5 on the reverse, that is the fifth year of his Nawābī; the type is the same as the coins of 1235. This second kind cannot have been issued earlier than 22nd Rajab 1234, when the fifth year of his Nawābī began.

It is possible, then, that the 26-san coins were used during the earlier part of 1234, that is for seven months up to 22nd Rajab, and the 5-san coins after that date. On the other hand the 5-san coins may have been used only during the last ten days of 1234, from 18th Z'u-l-ḥijja to the end of the year. The latter view is supported by the comparative rarity of the 5-san coins: there is however one fact which seems to contradict this theory, the Coronation medal, which, one would imagine, was issued on the Coronation day, has the date احد which is applied, as we have seen, to no coin of 1234. There is no Hijra date on the medal so it may have been struck on Nauroz 1235. On the other hand it is just possible, though exceedingly unlikely, that the 1235 احد coins were in use from 18th Z'u-l-ḥijja 1234. The coins of the 5th Nawābī year 1234 and of all succeeding years bear the following couplet :—

سکه زد بر سیم و زر از فضل رب ذو المنن
غازی الدین حیدر عالی نسب شاه زمن

"Ghāzīu-d-dīn Ḥaidar, of lofty lineage, King of the World, struck coins in gold and silver by the grace of the great and Almighty God." There are two coins of 1235. I R. (Nos. 8 and 9), the only Awadh coins of the kind that I have come across,

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[1] Had the regnal year started from 18th Z'u-l-ḥijja 1234, it would have been necessary to change the Hijra date after ten days in each succeeding regnal year. In the case of all the other Kings of Awadh there are two Hijra dates for each regnal year since the regnal year begins in the middle of the Hijra year in each case. Hence there are two sets of coins for each Hijra year.

[2] As Mr. Nelson Wright has pointed out (Introduction to I.M.C. Catalogue, Vol. III, under the name Muḥammadābād), this series was probably struck for currency in Awadh. They are known in the Lucknow bazars as Āṣafu-d-daula rupees.

which differ from the prescribed pattern of the year. They are without any mint name on the reverse, and lack the couplet on the obverse, giving merely the name Ghāzīu-d-dīn : possibly they were coined for use as nisārs.

In the second year 1236 the title of Lakhnau was changed from دار الامارة the 'Abode of Government' دار السلطنت the 'Abode of the Sultān.' This may perhaps have been intended as a further assertion of independency.

The following denominations are said to have been coined by all the kings. In gold—the ashrafī or gold mohur, half, quarter, eighth and sixteenth of a mohur. Of the three last I have only seen specimens coined by Wājid 'Ali, but it is quite possible that similar coins of the other kings may turn up since the corresponding sizes in silver are known. In silver there were in the same way the rupee, half, quarter, eighth, and sixteenth of a rupee. In most cases the rupee die was made to serve for the smaller pieces, so that they are very imperfect, but Ghāzīu-d-dīn, Naṣīru-d-dīn, and Wājid 'Alī in certain years had dies engraved of the required sizes.

In copper, the Falūs of an average weight of 180–185 grains (though the British Museum specimens in several cases reach 200 grains) is the only copper coin known to have been issued by the first four kings. There is a coin of Wājid 'Alī, of half this weight (No. 67), in the British Museum, and a ¼ Falūs of the year 1270 of careful workmanship is not uncommon.

Ghāzīu-d-dīn died on[1] Oct. 20th, 1827 (28th Rabī' I, 1243); and was succeeded by his son Naṣīru-d-dīn Ḥaidar. For the first two years of his reign the following couplet appears on the obverse of his coins :—

بزر سکه شاهی زد ز لطف اله
سپهر مرتبه شاه جهان سلیمان جاه

"In the world, by the grace of God, the royal coin has been struck with (the name of) the king of the world,[2] Sulaimān Jāh, the high exalted one." In 1245, 3 R., the obverse legend was altered, the following couplet being substituted :—

سکه زد بر سیم و زر از فضل حق ظل اله
نائب مهدی نصیر الدین حیدر بادشاه

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[1] Beale, 19th Oct. 1827 (27th Rabī'-ul awal 1248).

[2] The only record of this name that I have been able to find occurs in an account of the "Princes of India by an officer in the service of H.E.I.C.," published in Edinburgh, 1833. "On the decease of Ghazi ood-deen Hyder in 1827, he was on 9th Oct. of that year succeeded by his son Shah Zaman, who is styled His Majesty, Aboo Nuseer Kootub-ood-deen, Soliman Jah, Zaman Padshah, king of Oude."

"The Nāib of Mehdī, Nāṣiru-d-dīn Ḥaidar, the king, struck coins in silver and gold under the grace and protection of God."

The reverse of both these types was similar to that used by Ghāzīu-d-dīn from 1236 onwards. In 1247 certain silver coins of ¼ rupee value, and perhaps of other values also, were struck from dies made of the same size as the coin; this attempt to produce a better type of small silver coin, perhaps the outcome of one of the numerous whims of the king, did not apparently outlive the year.

In 1249 (7 R.) the design on the reverse was altered: both arms and inscription remained the same, but the latter was placed in one line running round the arms, instead of at the top, bottom and sides of the coin; the regnal date was removed from the centre of the coin and included in the circular inscription.

Naṣīru-d-dīn Ḥaidar died on 7th July 1837 (3rd Rabī' II, 1253) from poison. For three hours the Bādshāh Bēgam, wife of Ghāzīu-d-dīn, supported the claims of the supposed son of the late king, Mūna Jān; this Zenana intrigue was, however, quelled by the Resident, Sir John Low, the same night, and in the morning the brother of Ghāzīu-d-dīn was sent for and placed on the throne under the name of Muḥammad 'Alī Shāh. An abler man than either of his two predecessors, he reformed the administration, and strove in his short reign to replenish the treasury, which had been almost emptied to satisfy the extravagant fancies of the last king. The state and magnificence of the first two kings had been maintained entirely out of the treasure left by S'ādat 'Alī Khān, and Muḥammad 'Alī by his economic measures stayed the downfall of his house for two more generations. It is not surprising, therefore, that his coins are less plentiful than those of the other kings. He adopted a new coat of arms, substituting for the tigers two female figures, which appear bareheaded in the silver and gold coins of the first two regnal years, but in subsequent years wear the peculiar broad-brimmed hat which was the fashion of his time. He placed the following couplet on his coins:—

بجود و کرم سکه زد در جهان محمد علی بادشاه زمان

Muḥammad 'Alī, king of the Universe, by his grace and benevolence struck coins in the world.

In the first three regnal years the inscription of the reverse of all coins is ضرب صورة اودة بيت السلطنت لكهنو. In 1256 he substituted صورة اودة for ملک اودة

Muḥammad 'Alī died on May 17th, 1842 (5th Rabī' II, 1258) and was succeeded by his son Amjad 'Alī Shāh. The device which he adopted for the reverse of his coins was a fish,

surmounted by a crown and umbrella, and enclosed by two curved swords. He retained the inscription of Muḥammad 'Alī's later coins on the reverse, and used this couplet for the obverse :—

در جهان زد سکه شاهی بتائید الله ظل حق امجد علی شاه زمن عالم پناه

Amjad 'Alī, king of the Universe, the refuge of the world, the shade of God, struck royal coins in the world through the help of God.

His coins are all of one type, and with the exception of the copper, are well executed. He died on 13th February, 1847 (26th Safar 1263), and was succeeded by his second son Wājid 'Alī Shāh : his eldest son Mustafa 'Alī Khān Ḥaidar was debarred from the succession through an intrigue in the zenana, being pronounced insane.

Wājid 'Alī's coins are of two main types, differing in the title of Lakhnau on the reverse. From 1263–1267 (4 R.) he retained the formula used by Amjad 'Alī ضرب ملک اودھ بیت السلطنت لکھنو : after that date it was changed to ضرب بیت السلطنت لکھنو ملک اودھ اختر نگر.

The coat of arms is a modification of that adopted by Muḥammad 'Alī ; mermaids take the place of the women. On the top of the umbrella [chhāta) is perched a parrot, which in most cases is unrecognizable, but is clearly seen in No. 6 which is a really fine example of the moneyer's art. The couplet which appears on Wājid 'Alī's coins is as follows :—

سکه زد بر سیم و زر از فضل تائید الله ظل حق واجد علی سلطان عالم بادشاه

Wājid 'Alī, the Sultān of the world, the king, the shade of God, struck coins in silver and gold through the grace of the Divine help.

The majority of coins follow these two types, the small denominations half, quarter, eighth and sixteenth of a rupee being struck from the rupee dies (cp. Nos. 55, 59, 60). But he also seems to have struck a series of coins of a finer type from dies made specially to fit the coin and of excellent finish (cp. Nos. 51, 52*a*, 52 in gold, and Nos. 54, 61, 62 in silver). As both types appear in the same year (cp. Nos. 59-60 with No. 61), it would seem as if these coins of fine workmanship were for some special purpose, perhaps for scattering, or more probably for use like our maundy money. The curious small copper coin in the same style (No. 68), only found of the year 1270, should also be noticed.

No. 57 is an interesting coin ; I am inclined to think that it is a trial piece.

The following information relative to Wājid 'Alī's coins I obtained from an old Mīrza, still living in Lucknow, who has

distinct recollections of the days of the Nawābs. I cannot vouch for its absolute correctness, but I have on enquiry found much of it confirmed from time to time. The information was sent to me, written in Ūrdū; it has been translated as literally as possible. On the design of the coins he says, "The rule was that the managing Munshī (of the Mint?) used to design the coins at the Munshī Khāna, and present them before the king for his approval; if the king liked the design the coins were struck off at the mint, and issued through the whole year, beginning at New Year's day.[1] The silver for coinage was supplied by the Royal Treasury, and also by the king's subjects, who were charged four rupees on every hundred as the cost of coining. Munshī Rāja Kundan Lāl (who afterwards became a Muḥammadan) and was a very able man, designed these coins (i.e. Wājid 'Alī's), and wrote out the inscriptions for them. He was given a thousand rupees, a robe of honour, and other gifts besides..... It had become the custom to strike small coins of all kinds of gold, silver and copper: they were used by the king and his subjects, and were given away in charity, and as royal gifts according to astrological calculations."

To account for the crude debased coins of Wājid 'Alī's reign, which are little more than lumps of metal, I obtained the following curious piece of information from the same source; though quite incredible I insert it, as being of some interest: "The reason why there are a large number of badly-shaped and unsymmetrical coins is that in the years 1859-60, the Government of the East India Company (?) seized and collected a large number of cannon at Cawnpore, and sold them by auction to the money-lenders of Cawnpore, who bought them on condition that they should be allowed to make copper coins after the pattern of Wājid 'Alī Shāh's coins, and sell them for thirty years at the rate of eighteen annas to the rupee. All these misshapen and crooked pice were made at Cawnpore and sold at eighteen annas to the rupee, and are still found all over the country."

On 12th February, 1856, Wājid 'Alī was forced to abdicate his throne, and the rule of the kings of Awadh came to an end. On 30th June, 1857, the mutiny broke out, and Brijīs Qadr, a son of Wājid 'Alī, was made Nawāb-Vazīr of Awadh by the mutineers, after Sulaimān Qadr, a brother of the late king, had declined the honour. His mother Ḥaẓrat Mahal acted as regent. Traditions regarding him are very confused: but it seems to be generally agreed that he struck coins, and the Lucknow Sharaffs assert that those Banāras coins which have a broad fish and the mint name صورة بدا were Brijīs Qadr rupees.

[1] This is, of course, not strictly correct, as the number of the Regna year was changed in the middle of the Hijra year.

One tradition states that Brijīs Qadr sent an embassy to Bahādur Shāh at Dehlī, which besides presents carried a design for a proposed new coinage for Awadh, that this design was approved by the Mughal and would have become current on the following New Year's day had not other events intervened. Rāja Durga Prasād of Sandīla in his Bostān-i-Awadh, however, says that the embassy found the Mughal in the hands of the English and returned. Nevertheless I have been able to obtain the traditionary couplet which was to have been placed on the coins :—

سکه زد بر سیم و زر چون مهر و بدر بادشاه هر چم چشم برجیس قدر

Whether this is genuine or not I cannot say. The title bādshāh and the striking of coins at all conflicts with the account that he was made Nawāb-Vazīr. In the Bostān-i-Awadh he is called فرمانده, which is dubious. On the defeat of the mutineers in Lucknow, Brijīs Qadr fled to Nepāl.

Note.—Most of the tradition about Brijīs Qadr was obtained from the old Mirza who supplied the information about Wājid 'Alī Shāh's coins.

Genealogical Table of the Nawāb-Vazīrs and Kings of Awadh.

Mirza Naṣīr.

(1) Muḥammad Amīn S'ādat Khān (1720—1739).
Burhānu-l-Mulk.

A daughter, m. (2) Abū-l-Mansūr Khān Safdar Jang (1739—1756).

(3) Shujā'u-d-Daula (1756—1775).

(4) Āṣafu-d-Daula (1775—1797).

5) Vazīr 'Alī (1797—1798). (6) S'ādat 'Alī (1798—1814).

Shamsu-d-Daula. (7) Ghāzīu-d-Dīn Ḥaidar (1814—1827). I. (King from 1819). III. Muḥammad 'Alī Shāh (1837—1842).

II. Naṣīru-d-Dīn Ḥaidar (1827—1837).

Mūna Jān (supposed son).

IV. Amjad 'Alī Shāh (1842—1847

Mustafa 'Alī Khān Ḥaidar. V. Wājid 'Alī Shāh (1847—1856). Sulaimān Qadr.

Brijīs Qadr.
(Proclaimed Nawāb-Vazīr during the Mutiny.)

COINS.

GHĀZIU-D-DĪN ḤAIDAR, 1819–1827, A.H. 1234–1243.

Types.

A. (1234). In the name of Shāh ʿĀlam, with the date of his regnal year 26: struck at دار الامارة لکهنو

B. (1234). In his own name, dating from his accession to the Nawābī in 1229 A.H.

C. (1234–5 I. R.). In his own name but dating from his Coronation in 1234 A.H.

D. (1235 2 R.—End of Reign). As type C, but change in title of Lakhnau: دار السلطنت

Gold.

No. 1. Type A.
Wt. 165. Size 1·0.
Date 1234 A.H., 26 R.

Obverse.

باد الله محمد
شـــــــا
حامی دین شاه عالم
فضـــــــــل
سایه ۱۲۳۴
کشـــور
بر هفت
ســـــــــکهه زد

Symbol ج below شاه

Reverse.

Arms of Awadh: Two fishes facing one another enclose سنه ۲۶, and support a kitār, surmounted by a crown. A tiger on either side with head turned outwards, holding a flag, as supporters. Above arms:

دار الامارة لکهنو میمنت

To right:—جلوس; To left: مانوس; Beneath: ضرب صوبه اودهه.

British Museum.

No. 2. Type B.
Wt. 165·5. Size 1·0.
Date 1234, 5 R.

Obverse.

از فضل ذو المنن
رب
غازی الدین حیدر عا
لـــــــــــــــــ
۱۲۳۴

Reverse.

As No. 1, but سنه ۵

نسب شاه زمن
سـ ـــــــکه
زد بر سیم و زر

ج below حیدر

British Museum.

No. 3. Type D.
Wt. 165. Size 1·05.
Date 1236, 2 R.

Obverse.

As No. 2, but ۱۲۳۶

Reverse.

As No. 1, but دارالسلطنت and سنه ۲

British Museum.

Highest wt. 166.
Lowest ,, 165.

Years (*a*) 1237, 3 R. (165·2). B.M.
(*b*) 1238, 4 R. (165·8). B.M.
(*c*) 1239, 5 R. (165·5). B.M. (166). I.M.C.
(*d*) 1241, 7 R. (165). B.M.

Silver.

No. 4. Coronation Medal of Ghāzīu-d-dīn.
Wt. 1220. Size 3·1.
Described by (1) H. H. Wilson, Num. Chron., Vol. V, 1843, pp. 129–133.
(2) H. Nelson Wright, J.A.S.B. Num. Suppl. pt I, p. 11.

British Museum.

No. 5. Type A.
Wt. 172. Size 1·05.
Date 1234, 26 R.

As. No. 1, only in silver.

B.M.

No. 6. Type B.
Wt. 172·5. Size 1·05.
Date 1234, 5 R.

As No. 2, only in silver.

B.M.

No. 7. Type C.
Wt. 170·8. Size 1·0.
Date 1235, 1 R.

Obverse.

As No. 2, but ۱۲۳۵

Reverse.

As No. 2, but سنه احد

British Museum.
I.M.C.(173).

No. 8. Special type.
Wt. 21·21. Size ·5.
Date 1235, 1 R.
$\frac{1}{8}$ Rupee.

Obverse.

١٢٣٥
حيـــــدر
غازي الدين
شـــــــاه
زمن

Reverse.

Arms of Awadh alone
inclosing سنه احد

C.J.B.

No. 9. Special Type.
Wt. 10·21. Size ·4.
Date 1235, 1 R.
$\frac{1}{16}$ Rupee.

Obverse.

حيـــــدر
غازي الدين
١٢٣٥
ســـنـــه

Reverse.

As No. 8.

C.J.B.

No. 10. Type D.
Wt. 172·5. Size 1·0.
Date 1236, 2 R.
Highest wt. 172·5.
Lowest ,, 167·9.

As No. 3, only in silver.
B.M.
C.J.B. (167·9).
Years (*a*) 1237, 3 R. (172).
C.J.B.
(*b*) 1238, 4 R. (170·6).
C.J.B.
(*c*) 1239, 5 R. (172).
C.J.B.
(*d*) 1241, 7 R. (171·4).
C.J.B.
(*e*) 1242, 8 R. (171·9).
C.J.B.
[1](*f*) 1236, 6 R. (155·77).
C.J.B.

No. 11.
Wt. 86·4. Size ·85.
Date 1233, 4 R.
$\frac{1}{32}$ Rupee.

Obverse and reverse as No. 10.
B.M.

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[1] This last is probably a forgery : the date is wrong, ٦ being substituted for ٢.

No. 12.
Wt. 21·65. Size ·47.
Date — 8 R.
$\frac{1}{8}$ Rupee.

As No. 10, but most of the inscription is gone, only the centre of arms remaining on the reverse. Struck from a rupee-size die.
C.J.B.

Copper.

Note.—In the case of all copper coins of the Kings of Awadh some of the inscription is always wanting (the few exceptions will be notified). There are an infinite number of minor varieties in type, no two dies being exactly identical. The copper coins were however intended to follow the type of the gold and silver coins of each year; the small ornaments and embellishments which appear on the latter are, however, in general wanting.

No. 13. Type A.
Wt. 187·2. Size ·9.
Date 1234, 26 R.
One of my coins has a cross under كشور

As No. 1, only in copper.
B.M.
C.J.B. (179·78).

No. 14. Type B.
Wt. 186·5. Size ·96.
Date 1234, 5 R.

As No. 2, only in copper.
B.M.

No. 15. Type C.
Wt. 184. Size ·95.
Date 1235, 1 R.

As No. 7, only in copper.
B.M.
C.J.B. (181·17).

No. 16. Type D.
Wt. 185. Size ·9.
Date 1236, 2 R.

As No. 3, only in copper.
B.M.
C.J.B. (180·32).
Years (*a*) 123 X, 3 R. (181·75).
C.J.B.
(*b*) 123 X, 4 R. (182·63).
C.J.B.

Many copper coins plated with silver, intended to be passed as rupees, exist. I have one with traces of silver upon it dated 1240, 6 R., weighing 152·8 grains. It is much finer than the ordinary copper coin and was struck from the rupee-die or an imitation of it.

NAṢIRU-D-DIN ḤAIDAR, 1827–1837, A.H. 1243–1253.

Types.

A. (1243–1245, R. 1–2). In the name Sulaimān Jāh.
B. (1245–1249, 6 R.). In the name Naṣīru-d-dīn.

C. (1249, 7 R. –1253). Arms altered on the reverse: inscription in one line round the arms.

Gold.

No. 17. Type A.
Wt. 165·4. Size ·95.
Date 1243, 1 R.

Obverse.

الله جاه
ســـــــایمان
مرتبه شاه جهان
ســـــــپـــــهر
۱۲۴۳
زده ز لطـــف
ـــــــــــــــه
بر هر سکـــه شا

Reverse.

Arms as in Ghāzīu-d-dīn's coins above. دار السلطنت لکهنو میمنت
To left: مانوس; *To right*: جلوس;
Beneath: ضرب صوبه اودھ.
In middle of arms: سنه احد.

Both obverse and reverse are enclosed in a circle of dots and the ground of both is ornamented with rosaces.

B.M.

Years (*a*) 1244, 1 R. (165·5).
B.M.

Silver.

No. 18. Type A.
Wt. 171·4. Size 1·0.
Date 1243, 1 R.

As No. 17, only in silver.
B.M.
Years (*a*) 1244, 2 R. (171·1).
B.M.

No. 19.
Wt. 85·64. Size ·79.
Date 1244, 2 R.
½ Rupee.
Struck from rupee-size die.

As No. 18, but arms and date alone appear on reverse: much of inscription wanting on obverse.

C.J.B.

No. 20. Type B.
Wt. 171·9. Size ·9.
Date 1246, 3 R.

Obverse.

بادشاه

حیدر

۱۲۴۶

مهدي نصير الدين

يب

از فضل حق ظل اله نا

سکه

زد بر سیم و زر

Reverse.

As No. 17, but سنه ۳

C.J.B.

Years (*a*) 1247, 4 R. (171·7).

C.J.B.

(*b*) 1247, 5 R. (172·2).

C.J.B.

(*c*) 1248, 5 R. (171·7).

C.J.B.

(*d*) 1248, 6 R. (170·3).

C.J.B.

(*e*) 1249, 6 R. (170·7).

C.J.B.

No. 21.
Wt. 86. Size ·8.
Date 1246, 3 R.
½ Rupee.

As No. 20.

B.M.

C.J.B. (80·63).

Years (*a*) 1248, 5 R. (84·87).

C.J.B.

No. 22.
Wt. 41·12. Size ·67.
Date 1247, 5 R.
¼ Rupee.

As No. 20. The die in this case was the same size as the coin : it is of good workmanship, and similar in size and thickness to the E.I.C. four-anna pieces.

C.J.B.

No. 23.
Wt. 42·59. Size ·65.
Date 1248, 5 R.
¼ Rupee.

As No 20. Struck from a rupee-size die, much of inscription wanting.

C.J.B.

Years (*a*) 1248, 6 R. (42·6).

B.M.

No. 24.
Wt. 21·5. Size ·5.
Date XXXX, 4 R.
⅛ Rupee.

As No. 20. Struck from a die larger than the coin.

B.M.

No. 25. Type C.
Wt. 172 3. Size 1·1.
Date 1249, 7 R.

Obverse.

As No. 20, but ۱۲۴۹

Both obverse and reverse have their ground ornamented with rosaces, and are surrounded by a border of rays.

There are small ornaments under the word نصیر, which vary slightly with each year.

Reverse.

Arms. Supporters, two tigers holding penants as before, but the two fish enclose katāh instead of the regnal year— Crown instead of katāh above fish, and umbrella surmounts crown. Inscription in one line round the arms :— ضرب صوبه اودهٔ دار السلطنت لکهنؤ سنه ۷ جلوس میمنت مانوس

B.M.

Years (*a*) 1250, 7 R. (170·52). C.J.B.

(*b*) 1250, 8 R. (170·3). C.J.B.

(*c*) [1] 1251, 8 R. (172·4). B.M.

(*d*) 1252, 9 R. (172). C.J.B.

(*e*) 1253, 10 R. (172·2). C.J.B.

No. 26.
Wt. 86·34. Size ·8.
Date 1250, 7 R.
½ Rupee.

As No. 25. Struck from a rupee-size die. C.J.B.

No. 27.
Wt. 42·2. Size ·6.
Date 1250, X R.
¼ Rupee.

As No. 25. Struck from a die larger than the coin. B.M.

Years (*a*) XXXX, 9 R. (42·8). B.M.

No. 28.
Wt. 20·7. Size ·5.
Date 1251, X R.
⅛ Rupee.

As No. 25. Struck from a die of much larger size than the coin. B.M.

No. 29.
Wt. 10·64. Size ·37.
Date 1252, X R.
$\frac{1}{16}$ Rupee.

As No. 25. Struck from a rupee-size die. Most of the inscription is gone. C.J.B.

[1] I have a specimen of 1251, 8 R., which measures only ·88. Some of these coins are very crudely executed.

Note.—In type C, owing to the altered position of the regnal year, it is almost impossible to obtain specimens of the smaller denominations which retain both regnal and hijra years.

Copper.

No. 30. Type A.
Wt. 177·39. Size ·9.
Date 1243, 1 R.

Inscription as No. 17, plain ground.
C.J.B.

Years (*a*) 1244, 1 R. (180·01).
C.J.B.
(*b*) 1244, 2 R. (181·81).
C.J.B.

No. 31. Type B.
Wt. 179·05. Size ·9.
Date 1245, 3 R.

Inscription as No. 20—there are traces of a dotted border on this coin—and the ground is ornamented with rosaces: the majority of coins of this type are without these ornaments.
C.J.B.

Years (*a*) 1246, 3 R. (183·3).
B.M.
(*b*) 1246, 4 R. (185).
B.M.
(*c*) 1248, 5 R. (185).
B.M.
(*d*) 1249, 6 R. (186·01).
C.J.B.

No. 32. Type B.
Wt. 182·51. Size ·95.
Date 1246, 4 R.

As No. 20.
An exact replica of a rupee in copper.
C.J.B.

There is not the least trace of silver on this coin: also it may be noted that two silver-plated coins, one in my own collection, noticed under the coins of Ghāzīu-d-dīn, and one in the B.M. collection of Naṣīru-d-dīn 1248, 5 R., weigh 152·8 grains and 150 grains respectively. If the coin under notice once was silver plated it must have been somewhat heavier still, and hence rather heavy to pass for a rupee, the average weight of which is 170 grains. I conceive it to be possible that this coin is a model of a rupee in copper, perhaps a proof. A similar coin of Wājid 'Alī Shāh will be noticed later.

No. 33. Type C.
Wt. 185·5. Size ·9.
Date 1249, [7] R.

Inscription as No. 25.
B.M

Years (*a*) 1250, 7 R. (187·83).
C.J.B.

MUḤAMMAD 'ALI SHĀH, 1837—1842, A.H. 1253–1258.

Types.

A. (1253–1256, 3 R.) Struck at : ضربه اودھ بیت السلطنت لکھنو

B. (1256, 4 R. –1258). Struck at : ملک اودھ بیت السلطنت لکھنو

Note.—There is a slight difference between the silver and gold coins of the 1st and 2nd regnal years (1253–5) and those of the succeeding years. On coins of the 1st and 2nd years the women (supporters) are bare-headed. In those of the succeeding years they wear hats; also the numeral 1 above the fish disappears after the first year. I have not considered this as a separate type because the variety is slight, and in the copper coins it is difficult to say whether the distinction is maintained : these latter are very crude, but in one coin of the 3rd regnal year which I possess, the women seem to be bare-headed.

Gold.

No. 34. Type A.
Wt. 165·5. Size ·95.
Date 1253, 1 R.

Obverse.

زمان
شـــــاہ
در جہان محمد علی باد
۱۲۵۳
ســـــکـــــــہ زد
بجود و کرم

A border of rays on both obverse and reverse.

Reverse.

Arms, as follows:—In centre, one fish surmounted by figure 1; supporters, two women with hands supporting crown and standing on a scroll.

Inscription reading round arms :—

ضـــرب صونـــہ اودھ بیت الســـاطـــنت
لکھنو ســـنہ احد جلوس میمنت مانوس

B.M.

Years (*a*) 1255, 3 R. (165·4). B.M.

Silver.

No. 35. Type A.
Wt. 171·9. Size ·95.
Date 1253, 1 R.

There are various symbols on these coins—another specimen of 1253, 1 R. has a trefoil leaf 11 over جہان.

As No. 34, only in silver

10 over جہان C.J.B.

Years (*a*) 1254, 1 R. (171·7). C.J.B.

(*b*) 1254, 2 R. (171·4). B.M.

No. 35 (*a*) has 12.

(*c*) 1255, 2 R. L.M.
(*d*) 1255, 3 R. (172). B.M.
(*e*) 1256, 3 R. (172·3). C.J.B.

No. 36.
Wt. 41·7. Size ·6.
Date 1254, X R.
¼ Rupee.

As No. 35. Struck from die larger than the coin. B.M.

No. 37.
Wt. 20·5. Size ·5.
Date 1254, X R.
⅛ Rupee.

As No. 35. Struck from rupee-size die. B.M.

Years (*a*) 1255, X R. (20·91). C.J.B.

No. 38. Type B.
Wt. 172. Size 1.
Date 1256, 4 R.

Obverse.

As No. 35, but ۱۲۵۶

Reverse.

Arms as No. 35, but inscription: ضرب ملک اودھ بیت السلطنت لکھنو سنہ ۴ جلوس میمنت مانوس B.M.

Years (*a*) 1257, 5 R. (172·3). C.J.B.
(*b*) 1258, 5 R. (171·4). C.J.B.

No. 39.
Wt. 21. Size ·5.
Date 1256, X R.
⅛ Rupee.

As No. 38. Struck from die larger than the coin. B.M.

Copper.

No. 40. Type A.
Wt. 185·46. Size ·85.
Date 1253, 1 R.

As No. 34, but in copper. C.J.B.

Years (*a*) 1254, 1 R. (181·04). C.J.B.
(*b*) 1255, 3 R. (176·85). C.J.B.

One specimen of No. 40 (1253, 1 R.) in the B.M. weighs 203·5 grains.

AMJAD 'ALI SHĀH, 1842–1847, A.H. 1258-1263.

Gold.

No. 41.
Wt. 165. Size ·9.
Date 1259, 2 R.

Obverse.

شاہ زمن عالم پناہ علے

بتائید الہ ظل حق امجد

۱۲۵۹

ے

در جہان زد سکـــہ شا

Circle of rays on both obverse and reverse.

Reverse.

Arms as follows:—Fish, surmounted by crown, surmounted by umbrella—two curved swords enclosing the whole. Inscription round arms: ضرب ملک اودھ بیت السلطنت لکھنو سنہ ۲ جلوس میمنت مانوس

B.M.

Years (*a*) 1260, 3 R.
W.-K. Cat., 5159.

Silver.

No. 42.
Wt. 172·2. Size 1.
Date 1258, 1 R.

As No. 41, only in silver.
C.J.B.

Years (*a*) 1259, 1 R. (172).
B.M.
(*b*) 1259, 2 R. (171·41).
C.J.B.
(*c*) 1260, 2 R. (169·89).
C.J.B.
(*d*) 1261, 3 R. (172).
B.M.
(*e*) 1261, 4 R. (171·4).
C.J.B.
(*f*) 1262, 4 R. (171·7).
C.J.B.
(*g*) 1262, 5 R. (171·5).
B.M.
(*h*) 1263, 5 R.
B.M. (Bleazby).

No. 43.
Wt. 85·89. Size ·76.
Date 1259, 2 R.
½ Rupee.

As No. 42. Struck from a rupee-size die.
C.J.B.

Years (*a*) 1260, 3 R.
W.-K. Cat., 5162.

No. 44.
Wt. 42·66. Size ·6. As No. 42. Struck from a rupee-size die.
Date 1259, X R.
¼ Rupee. C.J.B.

No. 45.
Wt. 20·9. Size ·5. As No. 42. Struck from a rupee-size die.
Date 1261, X R.
⅛ Rupee. B.M.

Another specimen in the B.M. has only ۱۲. . and the regnal date is also wanting.

No. 46.
Wt. 10·66. Size ·42. As No. 42. Struck from a rupee-size die.
Date XXXX, X R.
$\frac{1}{16}$ Rupee. C.J.B.

Copper.

Note.—The copper coins vary considerably in minor details, especially in the shape of the crown.

No. 47.
Wt. 203·5. Size 1·1. As No. 41, only in copper.
Date 1258, 1 R. B.M.
C.J.B. (178·75).
Years (*a*) 1259, X R. (182·48).
C.J.B.
(*b*) 126X, 3 R. (181·32).
C.J.B.
(*c*) 1261, X R. (183).
B.M.

Wājid 'Alī Shāh, 1847–1856, 1263–1272.

Types.

A. (1263-1267, 4 R.) Struck at: ملک اودھ بیت السلطنت لکھنو

Bi. (1267, 5 R.) Struck at: ملک اودھ اختر نگر

B.[1] (1267, 5 R. –1272). Struck at: بیت السلطنت لکھنو ملک اودھ اختر نگر

[1] The coins of this type of the years 1270, 8 R. –1271, 9 R., for copper and gold, and 1271, 8 R. –1271, 9 R., for silver, almost constitute a separate type; they are distinguished by an elongated type of scroll which gives them a very distinctive character. Also a distinct attempt to improve the coinage is noticeable, especially in the copper coins, of these years; in this connection the weight of the gold mohur No. 50 should be remarked.

Gold.

No. 48. Type A.
Wt. 165·2. Size ·9.
Date 1266, 4 R.

Obverse.

سلطان عالم بادشاه علی
تائید اله ظل حق واجد
۱۲ ۶۶
فضـــــــــــــل
سکه زد بر سیم و زر از

Surrounded by a circle of rays.

Reverse.

Arms :—Supporters, two mermaids holding clubs outwards and pennants inwards. Between staffs of pennants, a shield or boss in centre; above shield, crown surmounted by an umbrella, a parrot perching on umbrella; below, two swords and crossed clubs; a scroll beneath all.

Around arms : ضرب ملک اوده
بیت السلطنت لکهنو سنه ۴ جلوس
میمنت مانوس

Surrounded by a circle of rays.
B.M.

Years (*a*) 1267, 4 R. (165·2).
B.M.

No. 49.
Wt. 20·60. Size ·48.
Date 1265, 2 R.
$\frac{1}{8}$ mohur.

As No. 48. Struck from a die, the size of the coin.
C.J.B.

No. 50. Type B.
Wt. 187·34. Size ·97.
Date 1270, 8 R.

Obverse.

As No. 48, but ۱۲۷۰

Reverse.

Arms as No. 48, but inscription : ضرب بیت السلطنت لکهنو
ملک اوده اختر نگر سنه ۸ جلوس
میمنت مانوس

C.J.B.

Years (*a*) 1272, 9 R. (163·2).
B.M.

Note.—The coins of 1272 9 R. and 10 R. are much finer than the earlier coins of this type. In each year the scroll on the coins of this type varies a little.

No. 51.
Wt. 41·35. Size ·52.
Date 1269, 6 R.
$\frac{1}{4}$ mohur.

As No. 50. Die the same size as the coin.
C.J.B.

Years (*a*) 1268, —R.
W.-K. Cat., 5165.

No. 52.
Wt. 11·88. Size ·39.
Date 1270, X R.
$\frac{1}{16}$ mohur.

As No. 50. The die of the obverse fits the coin: the reverse die is slightly larger than the coin, the arms only appearing on it.
C.J.B.

Years (*a*) 1272, 9 R. (10·26).
C.J.B.

Silver.

No. 53. Type A.
Wt. 171·6. Size 1·0.
Date 1263, 1 R.

As No. 48, but in silver.
C.J.B.

Years (*a*) 1264, 1 R. (169·89).
C.J.B.
(*b*) 1265, 2 R. (171·6).
C.J.B.
(*c*) 1265, 3 R.
L.M.
(*d*) 1266, 3 R. (172·3).
C.J.B.
(*e*) 1266, 4 R. (171·6).
B.M.
(*f*) 1267, 4 R.
L.M.

No. 54.
Wt. 85·95. Size ·8.
Date 1265, 2 R.
$\frac{1}{2}$ Rupee.

As No. 53, the die is the same size as the coin.
C.J.B.

No. 55.
Wt. 42·42. Size ·6.
Date 1265, X R. (probably 2).
$\frac{1}{4}$ Rupee.

As No. 53, the die is larger than the coin.
C.J.B.

No. 56.
Wt. 21·3. Size ·5.
Date 1265, 2 R.
$\frac{1}{8}$ Rupee.

As No. 53, die probably same size as the coin, as both Hijra and regnal date can be read.
B.M.

No. 57. Type Bi.
Wt. 171·7. Size ·93.
Date 1267 5 R.

Obverse.

As No. 53.

Reverse.

Arms as No. 53, but inscription : ضرب ملک اودھ اختر نگر
سنه ۵ جلوس میمنت مانوس

C.J.B.

Note.—This is the only specimen of this type of coin that I have come across. At first I imagined that it might be a specimen of Type B, and that the words بیت السلطنت and ہند though inscribed on the die, had missed the coin ; but there is not the slightest trace of any of these. It may therefore be either (1) a trial piece (this year, 1267, 5 R., is the first year of the new type B), or (2) a defective die in which part of the inscription was omitted by mistake.

No. 58. Type B.
Wt. 169·82. Size ·98.
Date 1268, 6 R.

As No. 50, only in silver.
This is a very crude coin.

C.J.B.

Years (*a*) 1267, 5 R.

L.M.

(*b*) 1268, 5 R.

L.M.

(*c*) 1269, 6 R. (172·2)

C.J.B.

(*d*) 1269, 7 R.

L.M.

(*e*) 1270, 7 R. (169·86).

C.J.B.

(*f*) 1270, 8 R. (171·4).

C.J.B.

(*g*) 1271, 8 R. (170·6).

C.J.B

(*h*) 1271, 9 R. (171·6).

B.M.

(*i*) 1272, 9 R.

L.M.

(*j*) 1272, 10 R (171·3).

B.M.

Nos. 58 (*i*) and (*j*) are larger and more finely executed coins than Nos. (*a*)—(*f*), but are without the elongated scroll of Nos. (*g*) and (*h*).

No. 59.
Wt. 85·80. Size 76.
Date 1269, ·6 R.
½ Rupee.

As. No. 58. Struck from a rupee-size die.

C.J.B.

Year (*a*) 1271, 9 R. (85·64.)

C.J.B.

No. 60.
Wt. 42·82. Size ·6.
Date 1269, X R. (probably 6).
¼ Rupee.

As No. 58. Struck from a rupee-size die.

C.J.B.

Years (*a*) 127—, X R. (41·74).

C.J.B.

No. 61.
Wt. 21·06. Size ·5.
Date 1269, 6 R.
$\frac{1}{8}$ Rupee.
As No. 58. Struck from a die, the same size as the coin and well executed.
C.J.B.

No. 62.
Wt. 10·64. Size ·4.
Date 1270, 8 R.
$\frac{1}{16}$ Rupee.
As No. 58. Struck from a die, the same size as the coin and finely executed.
C.J.B.

Year (*a*) 1272, 9 R. (10·55).
C.J.B.

Copper.

No. 63. Type A.
Wt. 182·17. Size 1·0.
Date 1264, 2 (?) R.
Same inscription as No. 48, but most of inscription wanting.
C.J.B.

Years (*a*) XXXX, 2 R. (182 09).
C.J.B.

(*b*) 1267, 4 R. (185·5).
B.M.

No. 64. Type B.
Wt. 451·54. Size 1·08.
Date 1270, X R.
As No. 50, with elongated scroll.
C.J.B.

Note.—This coin shows an attempt to imitate the large double dams of Akbar or perhaps the large copper coins of Bhopal; it is I believe unique.

No. 65.
Wt. 181·85. Size ·95.
Date 1267, 5 R.
As No. 50, this coin is struck from a rupee die. See note on Naṣīru-d-dīn, No. 32.
C.J.B.

No. 66.
Wt. 185·5. Size ·88.
Date 1270, 8 R.
As No. 50, only in copper, well executed; almost all the inscription appears.
C.J.B.

No. 67.
Wt. 91·2. Size ·7.
Date 1271, 8 R.
$\frac{1}{2}$ Falus.
As No. 50.
B.M.

No. 68.
Wt. 47·09. Size ·61.
Date 1270, 7 R.
$\frac{1}{4}$ Falus.
As No. 50. Struck from a die the same size as the coin and well executed.
C.J.B.

Years (*a*) 1270, 8 R. (46).
B.M.

No. 69.

Wt. 178. Size ·72.
Date XXXX, X R.
Other weights are 180·7 and 174·53.

There are a number of thick coins of either type A or B; but it is impossible to make anything of what little remains of the inscription, no dates are visible and the lettering is of the crudest.

C.J.B.

APPENDIX.

Medal struck by Shujā'u-d-daula.

(Cp. Marsden, pl. lvii, mcccxxx.)

Æ

Shujā'u-d-daula's medal.

(Coins of Awadh—N.S. XVIII, art. 112.)

Wt. 588·5. Size 1·75.

Obverse.

نواب
شجاع الد وزیر اعظم هند
یازدهم صفر روز شنبه سنه ۱۱۸۸
در الهی خیره
روهیله هارا زده و حافظ رحمت خان
سردار روهیله کشته شده

Nawāb Shujā'u-d-(daula), Prime minister of Hind, on Sunday, 11th Safar 1188, at Ilahī Khēra punished the Rohillas, and Ḥafiẓ Raḥmat Khān, the leader of the Rohillas, was killed.

Reverse.

A double-bladed sword upright, a single bladed sword crossing it at the hilt.

In a circular line :—

إنا فتحنا له فتحا مبينا
يفرحون بهذا سكان الهند

"We gave them a success, a complete success" | The dwellers in Hind will be glad of this.

Note.—In Marsden's engraving the Nawāb's name is given in full شجاع الدوله ; it certainly does not appear so on the coin (in the Lucknow Museum) which is reproduced here : but the ز in وزير looks something like 'lām hē' when the butterfly 'hē' is not written, so whoever drew the coin for Marsden may have reproduced وله by a gloss. It is also conceivable that the omission of وله on the coin, which is certainly strange, was due to a gloss on the part of the engraver.

The name Ilāhi Khēra presents a difficulty. The battle in which the Company's general General Champion in alliance with Shujā'u-d-daula totally defeated the Rohillas under Ḥafiz Raḥmat is usually known as the battle of Katrā, from the small town Mirānpūr Katrā on the Shāhjahānpūr-Bareilī road, near which it took place. In the [1] Tārīkh Farahbakhsh of Muḥammad Faiz Bakhsh the engagement is called Ilāhī Katrā. The adjoining southern parganah to Mirānpur Katrā in the present district of Shāhjahānpūr is called Khēra Bhaghēra : this may account for the name on the medal. The full account of the battle given in S'ādat Yār Khān's Gul-i-Raḥmat does not mention either Khēra or Katrā (Elliot's "Historian's Gul-i-Raḥmat," Vol. VIII, pp. 311-312).

ABBREVIATIONS.

B.M. = British Museum.
I.M.C. = Indian Museum Catalogue (Rogers).
L.M. = Lucknow Museum.
W.-K. Cat. = Catalogue of the White-King collection (Schulman).
C.J.B. = My own collection.

Lucknow, April 1912. C. J. BROWN.

[1] Trans. by W. Hoey: "Memoirs of Dehlī and Faizābād," Vol. II, p. 11.

22. The Date of Varaha Mihira's Birth.

By Braja Lal Mukerji, M.A.

It is the practice with the Hindu atronomers to mention the date of their birth in their works. It is believed, however, that the great astronomer, whose name appears at the top of this short note, has not followed this practice, although he must have known that such was the usage, and that such usage was being followed by other Hindu astronomers who had just preceded him. In his work, however, known as the Pañcasiddhāntikā, Varāha Mihira makes mention of a certain epoch which has been suggested to be the date of the said work. We are referring to the following verse :—

सप्ताश्विवेदसंख्यं शककालमपास्य चैत्रशुक्लादौ ।
अर्द्धास्तमिते भानौ यवनपुरे सौमदिवसाद्ये ॥
मासैरूनते समासैर्दिष्टे सप्ताहतेऽयनपदैः ।
लब्धैर्युतोऽधिमासैस्त्रिंशद्घ्नस्तिथियुतो दिष्टः ॥

(पञ्चसिद्धान्तिका)

In this verse we are taught a method of finding the Ahargana (i.e. the sum of civil days which had elapsed from an initial epoch up to a given date). It has been ascertained by Dr. Thibaut and Pandit Sudhākara Dvivedi, that Varāha Mihira's calculations start primarily from the beginning of the Kalpa, and Śaka 427 is only a stage in the calculations of the Ahargaṇa. Dr. Thibaut has also proved that all calculations in the Pañcasiddhāntikā start from Śaka 427. We find no difficulty in establishing the identity of this Śaka with that which commenced from A.D. 78. (We differ from Bhattotpala who says that Śakakāla means the time when Śaka kings were defeated by Vikramāditya). On referring to Varāha Mihira's rule for finding the Shashthyabda, and to Pandit Sudhakara's verification of the Sun's kṣepa on the basis of the Ahargaṇa rule, we find that the Śaka used by Varāha Mihira began from A.D. 78. Without reserve, therefore, we accept that Śaka 427 is A.D. 505. Dr. Thibaut has with his great ability examined all the kṣepas given in the Pañcasiddhāntikā and he finds that all figures in that work refer themselves to A.D. 505 The question to be decided now is, what is this A.D 505 ? Is it the date of the Pañcasiddhāntika ? Learned writers and able orientalists

have not failed to suggest this theory, but Dr. Thibaut has finally and ably proved that this assumption does not tally with facts, and we therefore reject this suggestion.

Dr. Thibaut says: "The question remains whether 427 Saka elapsed is to be taken as the time when Romaka Siddhānta was written, or at least is the epoch fixed upon by the author of the Romaka Siddhānta as the starting-point of his calculations, or whether the named year represents either the time of the composition of the Pañcasiddhāntikā or the epoch selected by Varāha Mihira himself. The former alternative is indeed *prima facie* the much more probable one, as the date appears in the text in connexion with other details which certainly originally belonged to the Romaka and not to Varāha Mihira. The latter alternative can, however, not be rejected altogether; for it is by no means impossible that while the principles of the calculation of the Ahargaṇa are taken from the Romaka, the particular date from which it starts might have been chosen by Varāha Mihira himself. It is moreover the habit of the writers of karaṇa-granthas to take for their epoch either the year in which their book is actually composed or at least some very near year. And finally Albiruni, as well as the Hindu astronomers of Ujjain, who in the beginning of this century furnished Dr. W. W. Hunter with the list of astronomers published by Colebrooke (Algebra, p. xxxiii), took 427 as the date of Varāha Mihira himself (cf. Kern, Preface to the Vṛhat Saṁhitā, p. 2) On the other hand, as Prof. Kern points out, it is certainly most improbable that Varāha Mihira, whose death has been ascertained by Dr. Bhau Daji to have taken place in A.D. 587, should have written the Pañcasiddhāntikā in 505 already. The other argument adduced by Prof. Kern against 505 being the date of the Pañcasiddhāntikā is that the latter work quotes Ārya Bhata, who was born in 476 only, and therefore is not likely to have been referred to in 505, already as a writer of authority. Matters lie, however, somewhat differently. We know from a passage of Brahmagupta, which will be quoted later on, that Śrīṣeṇa, the author of the Romaka Siddhānta, had borrowed some fundamental principles of his astronomical system from Āryabhata. Now Āryabhata's first work (for it is not likely that he began to write before the age of twenty-three) having been composed in 499, the assumption that 505 marked the time of the Pañcasiddhāntikā would compel us to conclude that Śrīṣeṇa's work was written in the short interval between 499 and 505, and had then already become famous enough to be esteemed one of the principal five Siddhāntas. Such a conclusion does certainly not recommend itself, and we may safely, I think, assume that 505 is either the year in which Śrīṣeṇa's work was written, or else the year selected by him for the starting-point of his calculations, and therefore not far remote from the year in which he wrote. For

the date of the Pañcasiddhāntikā there would finally remain the period from 505 to 587. I should, however, be unwilling to assign it to a later date than perhaps 530 to 540; for if its composition was removed by too great an interval from 505, it is improbable that Varāha Mihira should have kept the latter year as his epoch and not have introduced a more recent one."

The above is a concise abstract of all that has been written on this subject.

According to Dr. Thibaut, therefore, A.D. 505 is either the year in which Śrīṣeṇa's work was written or else the year selected by him for the starting-point of his calculations, and therefore not far from the year in which he wrote. To either of these alternatives we suggest one answer, viz. that Śrīṣeṇa was the author of only one of the five Siddhāntas, and the other Siddhāntas are by different authors who lived at different times. There is no evidence that the other four Siddhāntas were all written between A.D. 505 and the date of the Pañcasiddhāntikā. Varāha Mihira adopts Śaka 427 to exemplify the rules not only of the Romaka Siddhānta, but also those of the other four Siddhāntas, as is fully evinced by Dr. Thibaut's explanation of the origin of the kṣepas used in the Sūrya Siddhānta. It is not shown that any of the Siddhāntas, except the Romaka, or even the Romaka itself, made Śaka 427 the starting-point of calculations. All Sanscrit scholars will admit that in the text for finding the Ahargaṇa rule cited above, Śaka 427 is adopted only for an illustration. Varāha Mihira adopts Śaka 427 as the starting-point of his calculations, and all his formulas and figures refer us to this date. Then the question remains whether Śaka 427 was the date of the Pañcasiddhāntikā. This suggestion has been sufficiently refuted by the learned Dr. Thibaut, and the only one of the suggestions as to Śaka 427 that can possibly admit of any further discussion is whether this Śaka is the date of Varāha Mihira's birth, or of some very important event observed by him in his lifetime, and one which he desired to commemorate. Baboo Jogeś Candra Rāya starts the latter suggestion, and in his Introduction to Paṇḍit Candraśekhara's Siddhāntadarpaṇa says, "that the great popularity of Varāha Mihira leads us to suppose that the present system of the zodiac had its beginning in Śaka 427." He further says, "that the Śaka Year 421 or 427 appears to mark the beginning of the fixed zodiac." Baboo Jogeś Candra Rāya must have been, therefore, labouring under the mistaken idea that, according to Varāha Miriha, Śaka 427 was the year of no ayanamsa or that the sun had made a complete number of revolutions at the end of Śaka 427. It is clear that, according to Varaha Mihira, the sun had made a complete number of revolutions in Saka 421. Saka 421 Kalyabda 3600 = solar years 1955883600—solar months 23470603200. Therefore number of

intercalary months 721384201·79—total 2419187401·79—number of lunar days 725759622053·7, and the omitted *tithis* are 11356023172·2; and deducting the latter from the former we get 71440359881·5: multiply this number by 800 and divide the result by 292207, when we get 1955883600 without a remainder. According to Varāha Mihira, therefore, Saka 421 was the year when there was no ayanamsa. Varāha Mihira must have adopted Āryyabhaṭa and Lallācārya's ideas on the point.

Aryabhata says :—

षष्यब्दानां षष्टि र्यदा व्यतीतास्त्रयश्च युगपादाः ।

व्यधिका विंशतिरब्दास्तदेह मम जन्मनोऽतीताः ॥

अत्राह प्रकाशिकाकारः । अस्यायमभिप्रायः । अस्मिन् काले गौतिकोक्तभगणै स्त्रैराशिकेनानीता ग्रहमध्यमोच्चपाता स्फुटा स्युः ।

Lalla says :—

शाके नखाब्धिरहिते शशिनोऽब्धिदस्रैः

स्तत्तुङ्गतः कृतशिवैस्तमसः षडङ्कैः ।

शैलाब्धिभः सुरगुरोर्गणिते सितोच्चा

च्छोध्यं त्रिपञ्चकुहतेऽभ्रशराब्धिभक्ते ॥ इत्यादि

There must have been, therefore, some very important reason for Varāha Mihira's choosing Saka 427 as the starting-point of his calculations, in preference to Saka 421, a date of such importance for Hindu astronomy and so near to the one chosen by him. Varāha Mihira wanted to commemorate this date, by making it the starting-point of his calculations, and the only possible event in his life which could have happened in that year was his own birth. There is no reason to doubt the genuineness of Amaraja's statement that Varāha Mihira died in A.D. 587. Varāha Mihira, therefore, lived to the good old age of 82 years Varāha Mihira has not like other Indian astronomers disclosed the date of his birth in any of his works, but he has unmistakably recorded the same in his writings The Ujjain Brāhmans also give us Saka 427 as the date of Varāha Mihira's birth, and we have no reason for disputing their conclusion.

23. Firoz Shāh's Tunnels at Delhi.

By Rev. H. Hosten, S.J.

The building operations contemplated in Delhi give special actuality to the question of Firoz Shāh's tunnels. Some of the native papers, it appears, took up the question last year; but we have not heard whether any new arguments have been brought forward either in favour of or against the existence of the tunnels.

We showed from Sayyid Aḥmad Khān's *Description des Monuments de Delhi*, the first Hindostānī edition of which appeared in 1847 (cf. *J.A.S.B.*, 1911, pp. 99—108), that the tradition recorded in 1581 by Father A. Monserrate, S.J., and repeated in the *Āīn* and in Finch's travels (1611), was still current in Aḥmad Khān's time. Was it more than a tradition? Was there documentary evidence? This we were unable to prove; but, we laid stress on the fact that, since only 154 years had intervened between Firoz Shāh's death (1388) and Akbar's birth, a public fact attested by a public monument could hardly have been lost sight of. There must have been alive in Akbar's time old men who had conversed with octogenarians born under Firoz Shāh's reign. Besides, there were the public records, and Akbar's library contained 24,000 volumes.

Whatever the tradition may rest on, we may be pardoned if we attach special value to whatever tends to establish its survival till our own times.

During the Mutiny of 1857, this tradition very nearly created a panic among the British soldiers stationed at the ruins of Sir T. Metcalfe's once splendid mansion, "on the very banks of the river." The grounds about the house, which were very extensive, well wooded and surrounded by a stone wall, were occupied by a strong picket.

Major-General Sir Thomas Seaton writes (*From Cadet to Colonel*, London, Hurst and Blackett, 1866, II, pp. 183—184):

"When I relieved the field-officer of the day on the 17th (July), he told me there was a report from the Metcalfe picket, that the rebels were driving a mine under the picket-house, in consequence of which he himself had gone there and had heard the sound of the miner's pick very distinctly. I went instantly, and certainly the blows of some instrument were distinct enough. With the officer commanding the picket I examined the ravine immediately in front of the building, and saw at once that to drive a gallery under it would be impossible; for it would be below the level of the river, which was now rising, swollen by the periodical rains. As the noise might have been caused by the stamping of the horses, I had them

removed to some distance, but it still continued. There was a tradition of an underground passage from the Metcalfe-house to the Palace,[1] and the soldiers, having got hold of it, would not be convinced but that the rebels were working a mine under their feet. So I reported the matter, and the General ordered the engineers to examine into it, as a panic might arise from even more slender materials than the sound of a miner's pick. The engineers came down, sank a shaft, listened, looked about, and were satisfied that no gallery was being made. Still, however, the knocking continued, and all were completely puzzled. The idea of a tunnel was simply ridiculous, for unless arched and cemented like the Thames tunnel, it would be under water half the year. Unfortunately, the inquiry into this matter was destined to have a tragical termination.

"On the night of the 19th, Captain T. M. Greensill, attached to the Engineer department, went down with a party of H.M.'s 75th, under Lieutenant Wadeson, to examine a large ravine, considerably nearer to Delhi, to ascertain if the rebels were endeavouring to work a mine from thence, as it was just possible they might ... [Captain Greensill was accidentally shot during the search by Lieutenant Wadeson, as he neglected to reply to the challenge and was mistaken, from his white clothes, for a mutineer.]

P. 186. "The origin of the noise was subsequently discovered. It had been caused by a man on the bank of the river, quite three quarters of a mile distant, chopping wood under the city wall. The picket-house was built on ground made of the rubble from Metcalfe house, but in what way it acted to carry the sound I am unable to decide."[2]

It is not impossible that some reminiscence of Firoz Shāh's tunnels should linger in the wild stories which Diogo do Couto heard before 1600 about subterranean passages leading from the Kānherī caves (Salsette, Bombay) to Cambay, and "even to the country of the Moghuls and the town of Agra." Old Hindūs told him still that there were "numerous roads like this, constructed under ground in several parts of Cambay and the Deccan."[3]

Mr. C. Hyrapiet, an Armenian, who promises to prove that the builder of the Tāj was an Armenian, and that Mariam

[1] The Fort of Delhi is meant here, as is clear from the plans of the town at that time; but, in the light of the *Āīn*, there must have been a misconception. No tunnel ran between Metcalfe's house and the Fort. The three tunnels, if I understand the *Āīn* rightly, radiated from Firoz Shāh's palace or the Kotila. There is a difficulty, however. The distance from Fīrozābād to the Jahānnumā was 3 kos; that of the tunnel "towards the Jahānnumā, 2 kos." *Cf. Āīn*, Jarrett's transl., II, 279.

[2] I am obliged to the Rev. Fr. G. Lowyck, S.J., St. Xavier's College, for having pointed out these passages.

[3] Cf. D. do Couto, Tom. IV, pt. I, *Da Asia*, Dec. VII, Bk. III, Ch. X, p. 243 (Lisboa, 1782).

Makani was an Armenian wife of Akbar's,—in both of which points he will fail, we fear,—now hints the existence of other tunnels. Writing from Moradabad, April 11th, 1912, to the *Statesman*, Calcutta (cf. April 17th, 1912), he asks enigmatically: "Does Mr. Hoffstadt know of a mausoleum existing within a radius of 30 miles from where he writes [Agra]? Whose two tombs are these? From that place begins the subterranean passage to the Agra Fort, to Delhi, and some say to Allahabad as well. Abul Fazl or Badayuni could not possibly write about this as it was a 'sacred secret of the state.'[1] But would that prove its non-existence when it does exist even to-day? Who conceived the idea, carried out the work, and had charge of it but those who had similar ones under the Arav river in their Fatherland [i.e., Armenians]? Apart from that, I have sufficient reason on which I can base my arguments, in due time, with a photograph of the place. However, this can be investigated only with the permission and assistance of the Government of India."

We may correct here one of our own misconceptions pointed out by J. P. Thompson, District Judge, Delhi. Paying too much attention to Finch's description of the Kotila and its Asoka pillar, we identified Firoz Shāh's palace, described by Monserrate as on a ridge (*in saltu*), about three miles from Delhi (*J.A.S.B.*, 1911, p. 100, *n.* 3), with the Koṭila and the golden pillar.[2] But Father Monserrate must be understood to have described the Jahānnumā or Kushk-i-Shikār and the pillar there.[3] The difficulty felt at p. 105, *n.* 2, remains. According to the *Āīn*, the length of the tunnel from the Jahānnumā to the Koṭilā, for so we interpret the passage, was two *kos*; from the Koṭila to Old Delhi it was three *kos* (Jarrett's translation, II, p. 279) or five *kos* (Blochmann's Persian text, I, 513–514).[4] Hence the total length was between five and seven *kos*. The length of the tunnel, up to Old Delhi, according to Monserrate, was 40 stadia or 4½ miles, while the distance from the Jahānnumā to Delhi was about three miles, Old Delhi lying about 32 stadia or 3½ miles from the new town. We cannot determine from what point Monserrate starts his measurements between Old and New Delhi. Whether the tunnel described by him would tally more with the one from the Kotila to Old Delhi than with the other from the Jahānnumā to the Koṭila, it is difficult to see. All we can say is that his measurements do not appear to take in the total length of both.

[1] Abul Fazl does mention the Delhi tunnels.

[2] Length of pillar, according to Monserrate: 30 feet; thickness: 5 feet. Sir Alexander Cunningham's measurements are: length, 32½ feet; upper diameter, 29½ inches; lower diameter, 35·82 inches; diameter of the rough thick end, 38 inches.

[3] I have to thank Mr. J. P. Thompson for this reference.

24. Discovery of a Greek Ornament.

By *Rai* MRITUNJOY ROY CHOWDHURY, *Bahadur*, M.R.A.S.

In July last I purchased a gold ornament measuring $1\frac{1}{2}'' \times 1''$ and weighing 125 grains from a Sindhī. The image was offered for sale to the authorities of the Indian Museum and those of the Archæological Survey of India, but was not purchased by them on account of the very high price demanded for it. According to the statement of the dealer, this image or ornament was found on the turban of an Afghan soldier during one of the border wars, and was secured by his father, who was a soldier, at the close of a skirmish in which the British troops succeeded in driving the wild tribes away. The dealer said that the image had been worshipped in his family for some decades. It was very carefully examined by the authorities of the Archæological Survey of India and of the Indian Museum and had been pronounced by them to be a specimen of pure Hellenic workmanship.

The ornament represents an erect male figure, to the right of which stands a female one, facing the former on the left. The only garment of the male is a chlamys which hangs down from his shoulders and barely reaches the knees, the rest of the body is perfectly naked; the hair of the figure is close cropped, with its right hand touching the chin of the female figure, while the left is placed round the latter's neck, in the act of drawing it close. The female is dressed in a loose robe, which passing through her left arm over the shoulders, hangs down in loose folds in front, being held by her left hand. The position of this garment seems to indicate that it had become loose and was slipping away, when out of modesty she had clutched it with her left hand. The front of the female, from the neck down to her knees, is entirely bare. Her hair is curly, parted in the middle and drawn up in a loose knot on the back. The figures are hollow and have been made from beaten gold. They are represented as if standing on a narrow ledge. The back is quite plain save for three mortise holes intended for pins or tennons, two of which are just below the head of each figure, while the remaining one is at the back of the ledge between the legs of the figures. These holes indicate that the image formed a part of a larger ornament or was attached to something to which it formed but a decorative part. We may compare the Bacchanalian scenes which have been found in the decorative friezes among the ruins of *stūpas* and *saṅghārāmas* in the ancient provinces of Gāndhāra and Udyāna represented by the modern Peshāwar

District and Buner. Several specimens of almost the same nature were discovered by the late Sir Alexander Cunningham and presented by him to the Indian Museum in 1872-73. Five specimens were included by the late Dr. John Anderson in his well-known Catalogue and Hand Book of the Archæological Collections. These specimens were placed in different positions by him, but when the entire collection of the Museum was re-arranged by the late Dr. T. Bloch, specimens of the same nature differing very slightly from each other were placed together, in order that they might afford an opportunity for comparative study. The points of difference between these specimens and the golden ornament are :—

(1) One or more children, specially boys, are present on each of these alto-relievos.

(2) The female figure wears a close-fitting bodice next to the skin, over which another loose garment is worn. Absolute nudity in the female figure is not to be found on any of these sculptures.

(3) The male figure is nude in two of these specimens (G 3 and G 44). The only garment of the male in these two specimens is a loose cloth thrown over the shoulders and falling down below the knees in front, thus leaving the body quite exposed. In two other specimens the private parts of the figure are covered by a small piece of cloth girt around the loins. The loose piece of cloth, which is present in the two specimens mentioned above, is also to be found in these specimens.

A short description of these alto-relievos would not be quite irrelevant :—

G 3.—Four figures, male and female standing to front with a nude child standing between them, and the bust of another appearing over their shoulders. The male is perfectly naked with the exception of the loose piece of cloth mentioned above. The left hand slightly holds up one extremity of this garment. The heads of the main figures are missing. The female wears a close-fitting bodice, a close-fitting gown, a close-fitting skirt and a loose piece of cloth falling down from the left shoulder over the knees in front and hitched on below the left arm-pit to the belt or waistband. The bodice is buttoned over the right breast and bound with a cord round the neck. Both the children are devoid of any ornament or clothing. Anderson's Catalogue, part I, page 202.

G 44.—The group consists of a male, a female and a small child standing under a tree, the leaves of which resemble the Acanthus. The head of the male is perfect, while that of the female, though not missing, is very much disfigured. The male is clothed in the manner indicated above ;—a loose piece of cloth falling behind from the left shoulder and passing

in front just over the knees to the left arm. The right hand of the male figure and both arms of the female have been injured. The figure of the male is tough and brawny, resembling the Atlantes of the ancient Greeks, with unkempt hair and shaggy square-cut beard. From the outlines it appears that the hair of the female was drawn up in a loose knot behind the head. Its clothing consists of a loose-fitting garment hanging down from the left shoulder and enclosed in the hips, while another piece, of which the presence is indicated by a number of curved lines, covers the shoulder and possibly the breast. The female stands with her back turned towards the male with her left foot slightly raised as if turning away. But the left elbow of the male rests on the left shoulder of the female, thus preventing us from supposing that the lady is turning away from her mate in disgust. Anderson's Catalogue, part I, page 224.

G 4.—The group in this specimen consists of four figures a male, a female, a child to the right of the male, and a clothed figure between the shoulders of the male and the female. The heads of all the figures and the arms and legs of the boy are missing. The male wears a tight loin cloth and another loose garment, which has fallen down below the waist, and which it holds up with its left hand. The right hand is raised up in front as if in expostulation. The female is draped in a close-fitting garment, which leaves a portion of her breast and the shapely shoulders uncovered, and falls down in ample folds to the ankles. Another loose garment has slipped down the knees, but is being held up with the left hand. Only the mutilated trunk of the boy exists to the right of the female. Above the shoulders of the main figures appears the torso of a well-draped, seated male child. One or two palm-shaped leaves appear behind the figure of the male, and it is quite possible that they represent the Acanthus. A pair of very small feet are still traceable in the space between the male and the female figure, indicating another child standing between them. Anderson's Catalogue, part I, page 203.

G 8. Similar specimen.—Group consisting of four figures, a male, a female, a child on the ground between them and another peeping over their shoulders. The clothing of the male and female are exactly similar to G 4. The heads of all the figures with the exception of the female are missing. Her face is beautiful and well preserved and her hair has been parted in the middle, over which she wears a chaplet or wreath. The boy standing between them is headless and its arms have been raised aloft. Very little remains of the fourth figure save its bust and the right hand. The former is more like that of a well-formed strong man than of a boy. The right hand is placed on the left breast. The background is found

by some trees with large leaves resembling the Palm Acanthus. Anderson's Catalogue, part I, page 207.

Scenes representing Bacchanalian orgies are by no means uncommon in the Gāndhāra School. Several specimens with undraped or half-draped figures of revellers have been portrayed in M. Foucher's well-known work on the Graeco-Buddhist Art of Gāndhāra (L'Art gréco-boudhique du Gāndhāra, Figs. 127-130). It is quite possible that the gold ornament represents the pure classical idea with naked forms, the perfection of which the ancients always extol, while the alto-relievos represent the Indian adaptations of the same subject, the differentia being the close-fitting tunics of the females and the slight clothing of the males. The presence of children cannot as yet be accounted for, but possibly they represent cupids (Sanskrit *Kāma*), or Erotes.

The ornament has been presented to the Government of India.

25. Who were the Sungas?

By Mahāmahopādhyāya Haraprasad Sastri, C.I.E.

The dynasty which overthrew the Maurya Empire in Northern India went by the name of Suṅga. But who were they? In a paper contributed by me on the "*Dismemberment of the Maurya Empire*" I advanced a theory that they were of Persian origin from the fact that the names of the kings of this dynasty ended with the word "Mitra," a favourite deity of the Persians. I have now got some facts for the identification of the family. In page 312 of the Lātyāyana Śrauta Sūtra there is a sūtra in which the opinion of the Śuṅgas are cited in support of the author. A commentator, in explaining the word "Suṅga," says "Śuṅgāḥ Ācāryya," that is, the Śuṅgas were Ācāryyas or teachers of the Sāma Veda. In No. 25 of the Bibliotheca Sanskritica we have a series of works on the Gotras and Pravaras of Brāhmaṇas with a very able introduction by the editor Mr. P. Chentsal Rao. In Leaf VII of that introduction we have the following:—

"Pravaras Nos. 4 and 5 are pronounced by persons who were born of Śuṅga, a descendant of Bharadvāja, by a woman married in the family of Kata, a descendant of Viśvāmitra. So the Ṛsis of the families of both Bharadvāja and Viśvāmitra appear in the Pravara, and those who pronounced this Pravara cannot intermarry either with Bharadvāja or Viśvāmitra." The editor follows Apastamba in p. 309.

The Suṅgas are enumerated in the Gaṇa of Bharadvāja in page 57 of the work. So the Śuṅgas were a gotra of the Brāhmaṇas, and they professed the Sāma Veda. They had Bharadvāja and Viśvāmitra blood running in their veins. It is these Śuṅgas that destroyed the Maurya Empire. This identification explains many facts otherwise unaccountable in the history of Northern India at the time. The fact of the performance of Aśvamedha ceremony by the founder of the family at the capital of Aśoka, who prohibited all animal sacrifices throughout his dominions, is only explicable if the Suṅgas were Brāhmaṇas and followers of Sāma Veda which has most to do with animal sacrifices. This fact also explains the grant of a large sum of money for the encouragement of Brāhmanic education. It also explains the fact of severe persecution of the Buddhists which has made the name of Puṣpa Mitra, the founder of the family, an execration in the Buddhist world.

With the facts before us there cannot be much doubt that the Śuṅgas were Brāhmaṇas, and that they ushered in a Brāh-

manic dominion in Northern India by the great horse-sacrifice The theories of Rhys Davies, Bhāṇḍarkar and Hopkins that Brāhmaṇas were altogether suppressed for several centuries by the Maurya rule stands refuted completely.

In another paper I have shown how Sanskrit Language and Literature flourished luxuriantly in the 1st and 2nd centuries B.C., and in the 1st, 2nd and 3rd centuries A.D. It so flourished because the Śuṅga Emperors were Brāhmaṇas and they were followed by the Kāṅva Emperors who were also Brāhmaṇas. Instead of Brāhmaṇas being suppressed, Buddhism was rather suppressed in Northern India during the 1st and 2nd centuries B.C., and when it emerged from its depressed condition in the 1st century A.D. it became so saturated with Brāhmanic ideals that it was a new religion altogether.

26. A Note on Bhaṭṭi.

By Mahāmahopādhyāya Haraprasād Śāstrī, C.I.E.

My young friend Babu Surendra Nāth Mazumdar, M.A., in a note published in the February number of our *Journal and Proceedings* identifies Bhaṭṭi, the author of Rāvaṇa Badha, as the Bhaṭṭi of the inscription No. 485 of Dr. Kielhorn's "Northern List," and in doing so he controverts the opinion against such identitification advanced by Dr. Hultzsch in Epigraphia Indica, Vol. I, page 92, in a foot-note.

I have recently found a statement in a palm-leaf manuscript of Bhaṭṭi in the Government collection which goes to support Dr. Hultzsch's theory. The manuscript is dated Saka 1326, that is, A.D. 1404. In the colophon it is distinctly stated that Bhaṭṭi is an inhabitant of Valabhī and the son of Śrīdhar Śvāmī.

It runs thus :—

इति वल्लभीवास्तव्यश्रीधरस्वामिसूनोर्भट्टिब्राह्मणस्य कृतौ रावणवधे महाकाव्ये तिङन्तकाण्डे लुटप्रदर्शनो नाम द्वाविंशतितमः सर्गः। श्रीपुरुषोत्तमदेवशर्म्मणः स्वाक्षरमिदं शकाब्दा १३। २९॥ ओंहरिः ॐ नमो गणेशाय।

The Bhaṭṭi of the inscription came from Mahichhaka and dwelt at Mahichhaka; while Bhaṭṭi, the poet, wrote the poem at Valabhī, for he himself says so, and dwelt at Valabhi by the statement in the ancient colophon. Can these two Bhattis be one and the same person? This fact was made known by Dr. Rājendra Lāl Mitra in the year 1882 in the 6th volume of his "Notices of Sanskrit Manuscripts."

27. The Mouthless Indians of Megasthenes.

By Rev. H. Hosten, S.J.

J. W. McCrindle, the distinguished translator of the ancient Greek and Latin Geographers and Historians who wrote on India, took great pains to bring together whatever would rationally explain the distorted and fabulous passages in their accounts. There are few of those texts which modern research has not to some extent elucidated, and it is comforting to note how deep a substratum of truth underlay the knowledge of India possessed by the ancients.

I shall single out for examination one of Megasthenes' passages, which McCrindle dismisses without comment.

"Those who live near the sources of the Ganges," writes Solinus, "requiring nothing in the shape of food, subsist on "the odour of wild apples, and when they go on a long journey "they carry these with them for safety of their life, which they "can support by inhaling their perfume. Should they inhale "very foul air, death is inevitable."[1]

Pliny expatiates at greater length on the subject. "He "[Megasthenes] speaks also of a race living on the very confines "of India, on the East, near the source of the Ganges, the "*Astomi*, who have no mouth, who cover their body, which "is all over hairy, with the soft down found upon the leaves "of trees,[2] and who live merely by breathing and the perfume "inhaled by the nostrils. They eat nothing, and they drink "nothing. They require merely a variety of odours of roots "and of flowers and of wild apples. The apples they carry "with them, and when they go on a distant journey, that they "may always have something to smell. Too strong an odour "would readily kill them."[3]

Strabo's account of the *Astomi* contains some variants. "Some [of these wild men] were brought to the court, who "had no mouths and were tame. They dwell near the sources "of the Ganges, and subsist on the savour of roasted flesh[4] and

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[1] Schwanbeck, *Fragm.* xxx, B.; Solinus, 52. 26-30; McCrindle, *Ancient India as described by Megasthenes and Arrian*, London, Trübner, 1877, p. 82.

[2] A reference to cotton trees. Cf. Arrian in McCrindle, *op. cit.*, pp. 199, 219, and McCrindle's *Ktesias*, p. 71.

[3] Schwanbeck, *Fragm.* xxx; Pliny, *Hist. Nat.*, vii, 14-22; McCrindle, *op. cit.*, p. 80.

[4] The natives of the Himālayas are fond of strips of meat smoked over the hearth.

"the perfumes of fruits and flowers, having instead of mouths "orifices through which they breathe. They are distressed "with things of evil smell, and hence it is with difficulty they "keep their hold on life, especially in a camp."[1]

The following extract from Aulus Gellius contains doubtless an allusion to the mouthless tribes: "But it exceeds all bounds of wonder what some writers affirm that there is a nation in the extremity of India having their bodies fledged, and with the plumage of birds, who eat no kind of food, but live by inhaling by their nostrils the perfume of flowers: that not far from these are the Pygmies. . ."[2] Aulus Gellius states in general that he owed his account of the fabulous Indian races to Aristeas of Proconnesus, Isigonus of Nicæa, Ktesias, Onesicritus, Polystephanus, and Hegesias. The passage quoted does not appear in Ktesias' fragments published by McCrindle.

In addition to its similarity with Megasthenes, the mere fact that it is found in conjunction with the story of the Pygmies, allows us to refer it to Megasthenes' description of the Astomi as found in Pliny; but, whereas Pliny writes that they covered their body, which was all over hairy, with the soft down found upon the leaves of trees, Aulus Gellius, or more probably one of his authorities, misunderstanding the allusion to cotton trees, went a step further and clothed the Astomi in birds' feathers!

It may be remarked that Strabo, in his description of the *Astomoi*, combines a particularity attributed by Pliny to the *Scyritae*, "who instead of nostrils had merely orifices." The *Amuktêres* were also a people without nostrils, "who devour everything, eat raw meat, and are short-lived, and die before old age supervenes."[3]

It is worth noting, too, that Pliny mentions one after the other the *Scyritae*, the *Astomi*, the *Trispithami* (*i.e.*, men 3 spans long) and the *Pygmies*. This juxtaposition does not seem to be merely fortuitous. Likely, Megasthenes, whom Pliny follows, had placed them in the same manner, thus indicating the proximity of their habitat. According to Pliny, the *Scyritae* were a nomadic race, with legs contorted like snakes. The *Atsomi* lived near the sources of the Ganges, while the *Pygmies* and *Trispithami* dwelled beyond the *Astomi*, in the remotest parts of the mountains.[4] Various features in the description of the *Pygmies* have allowed authors to identify them satisfactorily

1 Schwanbeck, *Fragm.* xxx; Strabo, xv, i, 57; McCrindle, *op. cit.*, p. 76.—Compare with Honorius of Autun (Migne, *Patrologia Latina*, vol. clxxii, col. 124): "Sunt alii juxta fontem Gangis fluvii, "qui solo odore cujusdam pomi vivunt, qui si longius eunt pomum "secum ferunt: moriuntur enim si pravum odorem trahunt."

2 Cf. *Attic Nights*, ix, C. 4, in Rev. W. Beloe's edn., London, 1795, vol. II, pp. 148-150.

3 Cf. McCrindle, *Megasthenes*, pp. 77, 80.

4 Cf. McCrindle, *ibid.*, pp. 80-81.

with Himālayan tribes, noted for their shortness of stature.[1] There is something distinctly Mongolian, too, in the description of the *Scyratai*, left by Strabo, a description borrowed probably from Megasthenes, like Pliny's description of the *Scyritae* The *Scyratai*, according to Strabo, were a race beyond India. "They are snub-nosed either because in the tender years of infancy their nostrils are pressed down and continue to be so throughout their after-life, or because such is the natural shape of the organ."[2] The *Scyratai* of Strabo and the *Scyritae* of Pliny have been identified with tolerable certainty with the *Kirātas* of the Rāmāyaṇa, a barbarous people who inhabited woods and mountains, lived by hunting and were so diminutive that their name became a synonym for dwarf. Like the *Pygmies* of Megasthenes, they were thought by the Indians to fight with vultures and eagles.[3] Kirāt is a name still applied to a part of Nepal, and Lassen placed one branch of the Kirātas on the banks of the Kauśī in Nepal and another in Tipperā.[4] The following description of noseless (snubnosed ?) dwarfs in Strabo seems also to refer to the snubnosed *Scyratai*: "But, deviating into fables, he [Megasthenes] says there are men five spans and even three spans in height, some of whom want the nose, and having only two orifices above the mouth through which they breathe. Against the men of three spans, war, as Homer has sung, is waged by the cranes, and also by partridges, which are as large as geese."[5]

The habitat of the *Trispithami* and *Pygmies* and of the *Scyratae* being thus determined, it will be easier to see what grounds we may have for recognizing another Himālayan tribe, if not the same, in the apparently fabulous description of the *Astomi*.

The "mouthless" tribe referred to by Megasthenes lived in the Himālayas, near the source of the Ganges, and it seems clear that the "apples" on the perfume of which they subsisted were onions and similar products, which they used as an antidote against the phenomenon known as "mal de montagne" or *damgīrī* in Persian.

In the higher altitudes of the Himālayas it manifests itself in the most distressing forms. Mirza M. Haidar relates that during his expedition in Tibet, it seized upon men and animals alike. One morning he discovered to his consternation that more than 2,000 horses of his party had died of it during the night.[6] The natives of Pamir, Western Tibet and Nepal seem invariably

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1 Cf. Lassen in McCrindle, *Ktesias*, pp. 87-89.
2 Cf. McCrindle, *Megasthenes*, p. 173.
3 Cf. *ibid.*, pp. 173 note, 74 note; and *id.*, *Ktesias*, p. 88.
4 Cf. *id.*, *Megasthenes*, p. 174.
5 Cf. *ibid.*, p. 74.
6 Cf. N. Elias and E. D. Ross, *Tarikh-i-Rashidi of Mirza Muhammad Haidar*, London, Sampson & Low, 1895, pp. 412-413.

to ascribe the malady, not to the attenuated air of these altitudes, but to poisonous exhalations from the ground or the presence of noxious weeds. The phenomenon is generally known as *bish*, "poison," or *bish kā hawā*, "poisonous air."

In *Hobson-Jobson*[1] we find quotations from seven different sources, in all of which the phenomenon is ascribed by the natives to "pestilential emanations" or "poisonous winds." The earliest text belongs to Father Anthony de Andrada, S.J., who in 1624 passed into Western Tibet by way of Badrināth and Mana.

Ritter quoted by Col. Yule merely alludes to it. The text is as follows:

"In that desert [beyond Mana] there is no wood or anything "with which to make a fire; and so, the food which travellers "take with them consists of toasted barley reduced to powder, "which, when they want to eat, they put in water, and they "make a kind of porridge which they drink, without taking any-"thing which has touched fire, since there is none; and in this "way they keep themselves alive in going across that waste; but "many die in it. They [the natives] say that the ground, when "uncovered [bare of snow], gives rise to certain vapours so harm-"ful that, though neither hand nor foot may pain you, you feel "certain discomforts which kill you in less than a quarter of an "hour. I believe this is due to the great cold and want of food, "and so people lose their natural heat and die suddenly."[2]

The next passage in *Hobson-Jobson* belongs to Fathers Grüber and Dorville, S.J., both of whom in their overland journey from Pekin to Agra passed through Lhasa and Khatmandu (1661-62). "Mount Langur is the highest of all, so that at the top of it travellers can scarcely breathe owing to the subtleness of the air; and one cannot cross it in summer without manifest danger of life on account of the poisonous exhalations of certain grasses."[3]

Onions were most commonly employed to counteract these evil "emanations."

Brother Benedict Goes, S.J., who crossed the Pamir range in the autumn of 1603, wrote in a letter from Yarkand, 2nd Feb. (?) 1604, how he had thus been saved from the fatal effects of breath-seizure. "Benedict de Goes being still at Hircande [Yarkand] wrote that he had got over the most difficult and toilsome part of the road, *i.e.*, the desert of Pamech [Pamir], where five of his horses had died, on account of the great cold

[1] Cf. Col. H. Yule and A. Burnell, London, Murray, 1886, pp. 72-73.

[2] Cf. P. Ant. Franco, S.J., *Imagem da virtude em o noviciado da C. de J. na corte de Lisboa.* Coimbra, 1717, p. 384.

[3] From Kircher's *China Illustrata*, p. 65. It is rather amusing to hear Col. Yule remark that those intelligent Jesuits, though recognizing the true cause, accepted the fancy of their guides as an additional one.

in that desert, where no fuel is found for warming oneself; and because the air there is so strong that it stops the animals' respiration: so that horses and even men often fall stone-dead because they are unable to breathe. The remedy used by men against this is to eat garlic and onions or some dry apricots: as for the beasts, they rub their mouth with garlic. That desert is crossed in forty days, when there is snow; in less, when there is none."[1]

Like Goes, Bonvalot took with him a provision of dried apples as a preventive measure against mal de montagne.[2] The Sultan of Peshāwar recommended to his friend Burnes to eat plenty of garlic during his journey in Central Asia, as the most efficacious means of getting acclimatized.[3]

The author of an ancient Survey Record repeatedly quoted by Major Raverty in his *Notes on Afghanistan* says that, on crossing the Qará-Quram Range from Kahaplú Aghzá, "on the "way thither, you meet with a vast deal of snow, and much "water, grass and herbage. As the smell emanating from these "grasses produces faintness and stupefaction, travellers take "care to provide themselves with *onions*, when they travel by "this route. When a person becomes affected from the smell, "and feels faintness coming over him, his companions give him "an onion to eat, and also to smell at, and this is said to be an "effectual antidote." He makes a similar remark in connection with his journey from Pashat to Goslak over the Calas Ghāshaey: "By the way are dense forests, among the trees of "which are many descriptions of fruit-bearing trees, and much "grass and herbage of various species; and as from the smell "of the grass (or herbage) a person becomes stupefied, people "take an *onion* with them in their hands, and immediately on "their brain becoming affected they *smell the onion, and also eat "it*, and their brain recovers from the effect."[4]

N. Elias refers the reader to several accounts of height-sickness in Central Asia, from which it appears that dried apricots, dried herbs, etc., are also well-known nostrums.[5] According to Pliny, the mountaineers near the sources of the Ganges

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[1] Cf. DU JARRIC, S.J., *Troisieme partie de l'Histoire des choses plus memorables* . . . . Bovrdeavs, 1614, pp. 155-156. Referring to this passage, Yule speaks of dried apples being used as an antidote. He had the Latin edition of du Jarric; the original French edition mentions dried apricots. C. YULE, *Cathay and the way thither*, II. 563.

[2] G. BONVALOT, *Voyage dans l'Asie Centrale et au Pamir*, Bullet. de la Soc. de Geogr. 1890, p. 480, quoted by C. WESSELS, S.J., *Bento de Goes, S.J.*, in *De Studiën*, Jaarg. 43, D. LXXV, No. 1, p. 95.

[3] Quoted by J. BRUCKER, S.J., *Benoit Goes*, Lyon, 1874, pp. 21-22.

[4] Cf. RAVERTY, *Notes on Afghanistan*, pp. 309, 145, or *As. Soc. Beng.*, 1895, pp. 95, 94.

[5] Cf. *op. cit.*, p. 413. References are given to Wood's *Oxus*, pp. 236-238; Drew's *Jummoo and Kashmir*, pp. 290-92, and Bellew's *Kashmir and Kashgar*, p. 164.

lived not only on the smell of wild "apples," but also "on a variety of odours of roots and of flowers," or, as Strabo has it, "on perfumes of fruits and flowers." In fact, we might question the appropriateness of the word "apple" as translating the Latin *malum*.[1] Pliny defines the word *malum*: "pomi "genus, cujus varia genera, citreum, cydonicum, Persicum, "Medicum, Appianum, et alia plurima." (L. 15, c. 14).

Coming nearer to the sources of the Ganges, we find still the belief that attacks of breath-seizure are occasioned by the powerful perfumes of myriads of flowers in the small valleys and on the hill-sides. We mentioned d'Andrada, Grüber and Dorville. Another explorer, James Baillie Fraser, when at Jamnotri [the source of the Jamna], was dissuaded from going to Gangotri [the source of the Ganges] because "of a *serār* or wind from the mountains pregnant with this mysterious poison." He attempted it, however, but was obliged to fall back, everyone in his party complaining of the *bish* or "poisoned wind."[2] We do not read that the people in Mr. Fraser's escort resorted to the use of onions or any other products; but, there is little doubt that the practice noticed elsewhere is not unknown all along the Himālayas, wherever the same climatical conditions prevail.

Mount Langur is mentioned not only by Grüber and Desideri, but also by Fathers Cassiano Beligatti and Orazio della Penna, Capuchin Missionaries. The substance of their remarks is, I believe, preserved in Georgi's *Alphabetum Thibetanum*, pp. 446-447, his itinerary from Chandernagor to Lhasa being based on their relations (cf. p. 450). The extract I shall quote is valuable as confirming Grüber's and Desideri's remarks. It should be referred to for the identification of Mt. Langur.

"*Lhangur*: *Mons stupendae celsitudinis.*

"De eo scribit *Kircher* iter designans a Sina versus Kuti, & Indostan: '*Est Langur mons omnium altissimus, ita ut in summitate ejus viatores vix respirare ob aëris subtilitatem queant; neque is ob virulentas nonnullarum herbarum exhalatione aestivo tempore sine manifesto vitae periculo transiri potest. Per hunc montem ob horrenda praecipitia, & scopulosos tractus neque currus, neque jumentum transire potest, sed pedestri itinere totum iter conficiendum est spatio fere menstruo usque ad Cuthi.*' A Lhassa vero quatriduum tantum distare tradit. Immo dies fere triginta a Lhassa distat. Situm scilicet montis *Langur* confundit haud dubie *Eruditus scriptor* cum situ Montis *Cambala*. Symptomata tamen, quibus viatores affici scribit, propria sunt Montis Langur. Neque vel *a sola aëris subtilitate, vel a virulen-*

[1] Pliny's text is as follows: "Nullum illis cibum . . . tantum radicum florumque varios odores et silvestrium malorum . . ."

[2] Cf. *Journal of a tour through part of the Snowy Range of the Himāla Mountains*, London, 1820, pp. 435, 442, 449.

tis tantum herbarum exhalationibus. sed etiam a latentium fodinarum halitibus causam plerique repetunt. Ceterum quo altius ad montem ascenditur, eo gravior est, & infestior impetus symptomatum.

"*Pambu.* *M* [illia] *P* [assuum] *XVI.*

"Diversorium est partim lateritiis parietibus, partim nativis saxorum fornicibus & concamerationibus, in dorso montis *Langur* constructum. In hac nocturna statione jumenta, [nam iis omnes ad ascensum, descensumque montis utuntur;] unaque cum ipsis homines misere affliguntur, & incredibili pectoris, capitis, totiusque corporis cruciatu & angore correpti ululant, vomunt, delirant, & in latus omne contorta membra versant. Si mons erit nive tectus, vix infestas impressiones senties. Solutis nivibus, quo magis e vertice descendendo recedis, eo etiam minora, ac nulla demum symptomata fiunt ubi planiciem attigeris. Is tamen Mons non est omnium elatior. Nam eum superat *Cambala*. Verum, non ita calvus, & nudus est, ut ceteri, qui sequuntur. Latera enim, praesertim inferiora, circumspiciuntur conspersa plantulis, fruticibus & herbis medicis. Insignis est *Spica Nardi*, sive, ut *Salmas.* contendit Exercit. Plin. in Solin. pag. 1059 & seq. *Spica Indica*. Ideo enim sic absolute ab ipsis quoque Arabibus, adeoque & a Mogolensibus *Cembul Indi* nuncupatam voluit, quòd in *India*, vel ex Dioscoride in Indiae *Monte* nascatur. Mons iste, Indiae a veteribus adscriptus, revera tamen ignotus Dioscoridi, aliisque, quemadmodum pluribus ostendit laudatus Scriptor, *Langur*, ut ego conjicio, esse potest. Nam & ipsi Indostani spicam Nardi emunt a Nekpallensibus, aliisque vicinarum Regionum negotiatoribus. Hanc Indi appellant *Scenbatsy*, Persae *Sembul-tib*. Unde & hi signum *Virginis* in Zodiaco vocant *Sembul*. Zodoar etiam, vel Zedoaria, Indice *Nerbesi*, confusa a Græcis recentioribus, sic observante *Salmas. pag.* 1053, cum *Anacardi* Arab. *Beledor*, septemdecim generum in hoc ipso Monte reperitur. Plantarum deinde, florum, & herbarum venenatarum species innumerae sunt. Has etiam magna copia colligunt, venduntque Medicis, & Pharmacopolis Indostanis."

If it could be proved that the natural route from Patna to Tibet was by Kuti and Mt. Langur, we might conclude that Megasthenes' remarks applied partly to it. Megasthenes lived at Patna, and from the oldest times there existed communication between Patna, Nepal and Tibet. Georgi notes, however, that the road by Kuti was a new one, the older and easier route lying across "Bramascion" or Sikhim.[1] This had been abandoned in consequence of the dreaded *tārāi* fever.

[1] Cf. on this identification, Puini, *Il Tibet*, op. cit., pp. and *n.*, 38, 176.

"olla,"[1] which prevailed throughout the year in that direction, whilst travellers going by way of Nepal were free from it during four or five months.[2]

One of the most interesting descriptions of breath-seizure, its causes and remedies, is to be found in Father Ippolito Desideri, S.J., under the year 1721, when, on his return journey to India from Lhasa, where he had spent six years, he came to Mt. Langur before reaching Kuti.

"In that journey, one passes a very high and difficult mountain called Langur. It has this peculiarity that whoever crosses it feels infallibly a great discomfort consisting especially in a strong headache, pains in the chest and difficulty of respiration; in the case of many there is also fever. In fact, I myself experienced it the whole of the day that we spent in the ascent, and the night that we remained there. Besides, though we passed it at the end of May, we found not only plenty of snow, but such a stinging cold wind that, in spite of a good woollen blanket wrapped all round me, it caught me so strongly on the chest, piercing me to the very heart, that I thought I was going to lose my breath altogether and leave my bones there. The usual remedies against these discomforts, while crossing such a mountain, is to go along chewing roasted rice, caryophyllum [*garofani*, cloves ?], cinnamon, and some Indian nuts, called sopari [*supārī*], but known by the Portuguese and others in the Indies by the name of arecca. As it is impossible to ascend and descend the whole of Mt. Langur in one day, there is a big house there, where travellers stop for rest. But many cannot remain inside owing to the difficulty of breathing; they go and stop outside under the open sky.

"When one has at last gone up and down that mountain, the headache, pain in the chest, fever and every other discomfort gradually disappear. Shortly before we passed there, an Armenian merchant advanced in years, who was on his way to Lhasa, had died there one night.

"Many judge that these discomforts are due to the exhalations of certain minerals, which may be lying hid within the

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1 *Ol* in Desideri. Cf. A. DE GUBERNATIS, *Gli Scritti del P.M. della Tomba*, Firenze, 1878, pp. xviii, 48; *aul* in *Asiatick Researches*, vol II. *Account of the Kingdom of Nepal*, p. 307; GEORGI, *Alph. Tibet.*, 432.

2 "Spectabat olim [Kuti] ad Regnum *Nekpal*, sive Sinice *Cool*, quemadmodum testatur Deguignes. Hanc Reguli tres [Patan, Syamandu, Badgaon] concesserunt Tibetanis ea occasione, qua nova via ex Indostan per *Nekpal strata primum est.* Nam antea via erat Mol[illegible]tum per *Bramascion.* Et ea quidem vetus multo facilior & [illegible]lior erat. Poterant Indostani ea incedentes jumentis uti, & brevi[illegible]re merces in Tibetum inferre. At viatores majori numero periere morbum pestilentem *Olla*; quum is dirius atque constanter per cum flo[illegible]i tempestates saeviret. A quo periculo, aperta via per *Nekpal*, [illegible] quatuor certe, vel etiam quinque anni mensibus, a Novembri [illegible]ālā Mou[illegible] usque." Cf. GEORGI, *Alph. Tibetanum*, pp. 439-440.

Langûr; but, as no positive traces of such minerals have as yet been found, I prefer to think that they are caused by the great subtleness and sharpness of the air; and what makes me think so is that I felt much greater inconvenience when the wind supervened, and it was on the top of the Langûr that I felt those pains in the chest and those agonizing difficulties of breathing; what strengthens my belief still more is that many are more inconvenienced by staying in the big house, where the air is rendered more rarified by the fire they make to keep off the cold and cook something, than by sleeping in the open. It ought to be just the contrary, if it were due to the exhalations of minerals or the pestilential vapours of the ground."[1]

Writing to us from Pedong (Sikhim), Father Douënel reports: "When the natives of these places go into the high mountains, they are in the habit of taking with them some garlic, which they eat and inhale. It alleviates their fatigue and difficulty of breathing." And Father Desgodins, the octogenarian of Tibet fame, adds from the same place: "I had heard this already when I was travelling in the East of Tibet . . . As for me, I have often crossed altitudes as great as the top of Mt. Blanc, without feeling any discomfort. Other missionaries, the Chinese especially, suffered much. The Tibetans did not seem to find great difficulty in breathing. They are accustomed to those heights. They make the ascent on horseback, if they have a horse, or they hold their mules by the tail, to help themselves along. But they know also the efficacy of garlic for stimulating the respiration, and they recommend it charitably to travellers coming from the low countries."

The custom of the natives of eating camphor while travelling across the *Tarāī* is perhaps only another form of the practice we have already noticed. Father Marco della Tomba wrote in 1769 about his experiences in Bettiah and Nepal: "The journey from Bettia to Nepal takes eight days, but the air is so unwholesome that it is impossible to pass except in winter, *i.e.*, from the middle of November to the middle of March, and even then one must take the precaution of not drinking the water along the way, of keeping some piece of camphor in one's mouth, and not remaining more than is absolutely required. With the exception of those said months, one should on no account go near those places; for even the people of the country, when they are obliged to go there on business, or when they are sent with a letter, get always ill, and they often die of it."[2]

Father Desideri noticed the same in 1722, but he stated

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[1] Cf. Carlo Puini, *Il Tibet . . . secondo la relazione . . . del P. Ippolito Desideri (1715-1721)*, Roma, Societa Geografica Italiana, 102 Via del Plebiscito, 1904, pp. 82-84. This book, still too little known in India, is indispensable to Tibetan scholars. Price: 10 lire.

[2] Cf. Angelo de Gubernatis, *Gli Scritti del Padre Marco della Tomba*, Firenze, 1878, p. 48.

that the natives would not discover to him the remedies they used against the evil.[1]

It is worth remarking that, according to Pliny, these remedies were chiefly resorted to in distant journeys: that they proved beneficial, according to Strabo, "especially in a camp." Unless we greatly mistake, we have here an allusion to merchant caravans, or to military expeditions, wending their way across the Himālayan passes.

Raverty draws attention to the fact that the Buddhist pilgrims Hwui Seng and Sung Yun, who visited the Karakorum Range in 518 A.D., speak of the Th'sung Ling or Onion Mountains, whence he infers that the range took its name from the use of onions against breath-seizure.[2]

We believe that the earliest known allusion to the use of "wild apples" [fruits? onions?], roots and flowers against height-sickness belongs to Megasthenes. The fact that some hill-tribes used in their travels fruits of which they inhaled the perfume, lest "the foul air should kill them," seems then to have led to the idea that they subsisted on nothing else. "They ate nothing and drank nothing." From this to the belief that these people needed no mouth, and in fact had none, or instead of mouths had orifices through which they breathed, the inference was easy. The Indian mind did not shrink from it, and Megasthenes would only voice a common gibe current in the Patna bazārs, when speaking of the *Astomoi* or the mouthless Indians. The nickname once invented, it will appear credible enough that some of those wild men "who had no mouths" were actually brought to the Court of Chandragupta at Pataliputra, and that they were found to be tame!

Plutarch uses an amusing argument to pooh-pooh the story of the *Astomoi*. "For, how could one find growing there that "Indian root which Megasthenes says, a race of men who "neither eat nor drink, and in fact have no mouths, set on fire "and burn like incense, in order to sustain their existence with "its odorous fumes, unless it received moisture from the "moon."[3]

Strabo, Plutarch and others were mistaken when they thought that the fabulous stories of Megasthenes were the inventions of his imaginative brain. They were traditions current among the Aryan Indians, by which "they gave a very "pointed expression to their proud sense of their own superi-

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[1] Cf. PUINI, *op. cit.*, XVIII—XIX. Both Marco della Tomba and Desideri, especially the latter, give very sensible explanations of the causes of this unhealthiness of the Tarāī.

[2] Cf. *As. Soc. Beng.*, 1895, p. 95.

[3] Cf. SCHWANBECK, *Fragm.* XXXI; MCCRINDLE, *Ancient India as described by Megasthenes . . .* op. cit., pp. 82-3. I have not been able to find out whether natives of the Himālayas do set fire to herbs against breath-seizure.

"ority, both in form and feature, to the barbarous indigenous "tribes by which they were surrounded. . . . These traditions "were not only orally current among them, but are to be found "embedded in their imaginative literature."[1]

No corresponding epithet has yet been found in the Indian Epics, remarked McCrindle, for the *Astomoi* of Megasthenes, but "there can be no doubt that in describing them he followed Indian accounts."[2]

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[1] Cf. McCrindle, *Ancient India as described in Classical Literature*, Westminster, Constable, 1901, p. 60.

[2] Cf. Id., *ibid.*, p. 62.

28. A possible Chemical Method of distinguishing between Seasoned and Unseasoned Teak-Wood.

By Anukul Chandra Sircar, M.A., F.C.S., *Premchand-Roychand Scholar.*

The proper seasoning of teak-wood is a matter of the utmost importance from a practical point of view, since articles made of teak-wood, not properly seasoned, are likely to change their shapes during the process of residual seasoning. But no scientific method is known by which seasoned teak-wood can, with certainty, be distinguished from unseasoned teak-wood.

Method based on the difference in the percentage compositions of resins obtained from seasoned and unseasoned teak-woods.

Romanis (Jour. Chem. Soc., 1887, Trans., p. 868) has shown that alcohol extracts from teak-wood about 6% of a soft resinous substance, and that the extracts from freshly-cut teak (i.e. unseasoned teak) and from teak that has been long exposed to the air (i.e. seasoned teak-wood) are of a different nature —the former being entirely soluble in chloroform, whereas the latter is only partly so. He has further shown that the percentage composition of the part of the resin which is soluble in chloroform is quite different from that of the part insoluble in chloroform, and also from that of the resin which has been long exposed to the air. His combustion figures are as follows :—

I. The substance soluble in chloroform—

C = 75·20%
H = 9·25%
O = 15·55%

II. The substance insoluble in chloroform—

C = 60·20%
H = 6·98%
O = 32·82%

III. The resin that has been long exposed to the air—

C = 60·91%
H = 6·81%
O = 32·28%

He explains this change in the percentage composition as due to gradual oxidation of the resin contained in fresh teak-wood, which is soluble in chloroform, to a substance insoluble in chloroform, when either the resin or the wood itself has been exposed to the air. The figures II represent the percentage composition of completely oxidized resin, and comparing them with figures III, it is evident that the oxidation is practically complete after some time—only it may take a longer time within the wood itself. Again, the alcoholic extract from freshly-cut teak-wood being entirely soluble in chloroform, it may be taken for granted that figures I represent its percentage composition; and since the alcoholic extract from wood that has been exposed to the air for some time will be a mixture of the oxidized and unoxidized resin, its percentage composition will be represented by figures which will lie between the figures I and II, and the longer the wood is exposed to the air, the higher will be the percentage of oxygen and the lower that of carbon and hydrogen in the alcoholic extract as compared with figures I, until, in the case of the percentage composition of alcoholic extracts from teak-wood that has been very long exposed to the air, the figures II will be obtained.

From what has been said it seems clear that the amount of oxidation is a safe criterion of the amount of seasoning of the wood.

The wide difference in the percentage composition of the resins from freshly-cut teak-wood, and teak-wood that has been long exposed to the air, as mentioned before, led to the suggestion that it might be applied as a chemical method of not only distinguishing seasoned from unseasoned wood but of actually determining the amount of seasoning of any partially seasoned sample.

With this idea in view I set to work on the subject, but so far I have not been able to arrive at figures quite concordant with those obtained by Romanis (*loc. cit.*). The oxidized resin being insoluble in chloroform it was expected that this solvent would extract nothing from very old teak-wood. But contrary to expectation, the percentage of resin extracted from seasoned and unseasoned teak-wood by chloroform and alcohol were found as follows :—

Chloroform extracts.

From fresh teak-wood (i.e. unseasoned wood)—	From very old teak-wood (i.e. seasoned wood)—
7·33%	7·75%

Alcohol extracts.

From fresh teak-wood—	From very old teak-wood—
7·84%	7·00%

Choice of samples.—The old teak-wood examined was obtained from a broken piece of furniture which was at least twenty years old, and the fresh sample was collected from a freshly-cut tree from a local plantation. The tree was about fifty years old. Thus the two samples examined might be taken to represent typical seasoned and unseasoned woods respectively.

Method of extraction.—Fresh saw-dust was made from the samples of wood to be examined and dried completely in a vacuum dessicator. The extraction of the resin from the dried saw-dust was carried out with the required solvent in a Soxhlet's extraction apparatus, so that the amount of resin obtained in each case was the maximum. The excess of the solvent was then distilled off and the resin dried in a vacuum dessicator until the weight was constant. In order to guard against any oxidation of the resin during the process of drying, care was taken, in each case, from the very beginning not to bring it in contact with air for any length of time.

The extract from old teak-wood was a homogeneous resinous mass without appreciable admixture of any oily substance, whereas in the extract from fresh teak-wood there was an oily substance present. The resins in both cases melted below 100°C. and were found to contain C, H and O only. The ash left on ignition was negligible. The alcoholic resinous extracts from old and new teak-woods gave the following results on combustions :—

Old teak-wood extract.

I	II	III	IV	V	VI
C—69·71%	69·33%	68·00%	67·89%	69·60%	69·01%
H— 7·6 %	7·21%	7·57%	6·81%	6·42%	6·55%
O—23·69 %	23·46%	24·43%	25·30%	23·98%	24·44%

Fresh teak-wood extract.

VII	VIII	IX	X
C—69·95%	69·75%	70·39%	69·47%
H— 7·52%	7·13%	7·53%	6·90%
O—22·53%	23·12%	22·08%	23·63%

Particulars about the combustions.—I. The resin, which was dried only in a vacuum dessicator, was taken after the weight was constant. ·1779 gram gave ·4540 gram of CO_2 and ·1242 gram of H_2O. Found C = 69·71%, H = 7·60%, O = 23·69% (by difference).

II. The dry resin was just melted in the steam oven, which required about three minutes, in order to get it in a homogeneous condition, introduced into the boat and cooled in

a vacuum dessicator. ·2281 gram gave ·5798 gram of CO_2 and ·1480 gram of H_2O. Found C = 69·33%, H = 7·21%.

III. The dry resin which had been lying in an ordinary dessicator for about a week was taken. ·2849 gram gave ·7120 gram of CO_2 and ·1920 gram of H_2O. Found C = 68·00%, H = 7·57%.

IV. The dry resin was heated in the steam oven for 30 minutes in order to ensure complete drying, before being combusted. (It was found that the resin which had attained a constant weight lost a further portion of its weight when left in the steam oven for some hours, but the loss was most marked during the first 30 minutes. ·4181 gram lost ·0163 gram in 30 minutes when kept in the steam oven, but only ·0099 gram in the next two hours under the same conditions). ·2133 gram gave ·5310 gram of CO_2 and ·1306 gram of H_2O. Found C = 67·89%, H = 6·81%.

V & VI. The dry resin which had been lying in the steam oven for about six weeks was taken. (It was found that after some time the soft resin would no more melt in the steam oven at 100° and was a brittle, rather shining mass. Evidently a part of the resinous substance volatalized or changed its composition). In the first case ·1772 gram gave ·4450 gram of CO_2 and ·0996 gram of H_2O. Found C = 69·60%. H = 6·42%. In the second case ·1730 gram gave ·4380 gram of CO_2 and ·1024 gram H_2O. Found C = 69·01%. H = 6·55%.

Combustions VII, VIII, IX and X were done exactly in the same way and under the same conditions as combustions I, II, III and IV respectively. In the first case ·1868 gram gave ·4790 gram of CO_2 and ·1265 gram of H_2O. Found C = 69·95%, H = 7·52%.

In the second case ·2404 gram gave ·6138 gram of CO_2 and ·1540 gram of H_2O. Found C = 69·75%, H = 7·13%. In the third case ·1425 gram gave ·3730 gram of CO_2 and ·0966 gram of H_2O. Found C = 70·39%, H = 7·53%. In the last case ·2478 gram gave ·6310 gram CO_2 and ·1540 gram H_2O. Found C = 69·47%, H = 6·90%.

Thus the percentage compositions of old and new teak-wood extracts were found to be practically the same. Therefore further hopes to work out any method based on the percentage composition of the extracts were abandoned.

Method based on the isolation of a crystalline substance from seasoned teak-wood.

It was however found that the old teak-wood extract, when kept exposed to the air for about a month, separated white, feathery, long, prismatic crystals on its surface, while the new teak-wood extract did not even show the slightest tendency to separate any such crystals. Romanis (*loc. cit*). had no-

ticed the formation of these crystals in a similar way and also as a sublimate when the resin was melted and allowed to volatalize. In order to get the crystals in the latter way ·4 gram of the resinous substance from old teak-wood was taken in a dry test tube, heated on an oil bath gradually to 200°, and kept at that temperature for 30 mins. A white sublimate was formed on the upper part of the tube and on examination was found to consist of regular prismatic crystals; but the quantity of the crystalline product obtained either way was very small.

As the crystals were conspicuously absent in the resin from fresh wood, it was evident that they were formed by gradual oxidation of the resin, and a quantitative separation of these crystals from any given sample of resin would tell us the amount of oxidation of the resin, and therefore the amount of seasoning of the wood from which the resin was obtained.

An attempt was therefore first made to separate the crystalline substance from the resin. But following Romanis's directions (*loc. cit.*) for the separation of the crystalline substance from the tar obtained by the destructive distillation of teak-wood, it was found that caustic soda would not extract any crystalline substance from the resin.

One gram of the resin was next extracted with a comparatively small quantity of chloroform, when about 80% of it was dissolved. The chloroform solution was filtered and shaken up first with an excess of a solution of sodium carbonate and then with one of caustic soda, but neither of the reagents was found to extract anything from the chloroform solution. That part of the resin which was difficultly soluble in chloroform was brownish white in appearance and rather easily soluble in caustic soda. On acidification it gave a brown precipitate which could not be crystallized. It was therefore concluded that that part of the resin which was soluble in caustic soda was not easily soluble in chloroform, and conversely that the part soluble in chloroform was not appreciably soluble in caustic soda, and further that the separation of the crystals from the resinous substance could not be effected in the way described above.

It was found however that the crystals could be separated by subjecting the resin to steam distillation. 1·2 gram of the resin from old teak-wood was subjected to steam distillation with 100 c.c. of water in a 500 c.c. flask. The distillate was cloudy and contained a white, fatty-looking substance, which on examination was found to consist of clusters of beautiful, needle-shaped crystals. About 500 c.c. of the distillate was collected and shaken up with a small quantity of ether, which dissolved the whole of the solid substance leaving the aqueous solution completely colourless. The ethereal solution was separated and allowed to evaporate slowly in a glass dish, when the solid

substance was left behind as beautiful, white, branching needles, without admixture of any resinous matter. The crystals dissolved in strong H_2SO_4 and HNO_3 with a yellow colour and on dilution came out as a white precipitate. The substance melted between 156°—160°C. without decomposition and was easily soluble in benzene, chloroform, ether, acetone and alcohol; very slightly soluble in ligroin and methyl alcohol.

It was afterwards found that without going through the tedious process of extracting the resin in order to get the crystalline substance, it could be easily obtained by the direct steam distillation of the teak-wood saw-dust. For this purpose about 100 grams of freshly-made saw-dust from the sample of the wood to be examined, were subjected to steam-distillation. About 500 c.c. of the distillate was collected in each case, extracted with ether, and treated as before. The results in each case are given below:—

Sample I.—Fine white needles were obtained without admixture of any oily or resinous substance.

Sample II.—The distillate contained no crystals but a small quantity of a brown oily substance. The ethereal solution on evaporation left behind the oily substance together with an inappreciable quantity of crystals.

Sample III.—Though the distillate was cloudy from the beginning, crystals appeared only after some time. The ethereal solution on evaporation left white crystals together with a small quantity of the oily substance on the side of the dish.

Sample IV.—At first an oily substance came with the distillate and the crystals appeared only when about 250 c.c. of the distillate had been collected. The ethereal solution on evaporation showed an oily substance mixed with some crystals.

Sample V.—The crystals came from the very beginning and there was absolutely no oily substance mixed with them.

Description of the samples examined:—Sample I was a typical seasoned and II a typical unseasoned wood (*vide supra*). Samples III, IV and V were supplied from the workshop of the Dacca School of Engineering and were bought 3 months, 3 years and 5 years back respectively as seasoned woods.

As a result of the present investigation the following conclusions have been arrived at, viz., that:—

1. Both alcohol and chloroform extract from seasoned as well as unseasoned teak-wood about 7 to 8% of a soft resinous matter, melting below 100°.

2. The percentage composition of the resinous extracts from old and new wood is practically the same.

3. Teak-wood saw-dust yields on steam distillation either a crystalline or an oily substance or a mixture of the two,—the amount of the former as compared with the amount of the latter being a criterion of the amount of seasoning of the sample of wood examined.

The occurrence of the crystalline substance in seasoned teak-wood and its absence in unseasoned teak-wood serves as a method of distinguishing between the two.

I am at present trying to find out a quantitative method of separating the crystals from the oily substance; a preliminary experiment has shown that the separation can be effected by means of ligroin.

I wish to take this opportunity of expressing my thanks to Prof. E. R. Watson for kindly suggesting to me this piece of work, and also for the help and encouragement which I have received from him throughout the investigation.

Chemical Laboratory, Dacca College, Dacca.

29. Two more new species of Gramineae from Bombay.

By R. K. Bhide, *Assistant Economic Botanist, Bombay.*

Introduction.

While my paper (this Jour., Vol. VII, p. 513) on new and revised species of Gramineae from Bombay was going through the press I was expecting to receive from Dr. Stapf of Kew the identification of two grasses which I supposed to be new and which I had sent to Kew for the opinion of the Kew authorities. I have since received Dr. Stapf's opinion on those grasses, which confirms my idea that they are new, and have to thank him for having kindly examined them. I have also to thank Mr. W. Burns, Economic Botanist, and Mr. G. de P. Cotter, who kindly translated my original English description into Latin.

Pars Prima Diagnostica Latine.

Chloris quinquesetica, Bhide, sp. nova.

Gramen glabrum, perenne prostratum quod inferis nodis humi repit et radices foliorumque fasciculos quoquoversus extrudit, culmi. Ejus qui semper erecti altitudine ad 60 cm. attinent, e fasciculis foliorum oriuntur. Nodi glabri, folia longitudine modo 2·5 cm. modo vel 15 cm. latitudine modo 3 mm. modo 5 mm. attingunt. Nova folia primum parce tenuiterque longis ciliis ornata sunt, denique glabra, lanceolata, acuminata, basique truncata fiunt. Margines foliorum quâdam scabritiâ perminutâ teguntur. Lingula angusta fimbriata membranacea. Spicae numero quinque usque ad decem (in exemplo tamen a Gammie collecto octodecim) et longitudine 2·5 ad 5 cm. in fasciculo admodum brevi et racemoso compressae sunt. Ejus fasciculi rami (certe in exemplo a Gammie collecto) in pediculos brevi spatio tenus decurrunt et liras ut ita dicam constituunt. Ex his liris paucae spiculae germinant. Spicarum rachis et pediculus qui infra spicas est pilosi sunt. Spiculae una cum aristis longitudine 8 mm. attingunt. Glumae septem numero, quorum prima et secunda vacuae, tertia florem aristam paleam habet, quarta quinta sexta septimaque steriles paleisque carentes, unaquaeque priore minor et rotundior. Hae omnes aristas ferunt.

Gluma prima 1 ad 2 mm. longa est, elliptica quoque et lanceolata, et membranacea et uno satis robusto nervo ornata, et species ejus paullum obliqua. videtur esse. Secundae

glumae longitudo prioris sesquiplex, species elliptica, oblonga, membranacea, mucrone brevi, nervo uno robusto. Tertia longitudine aristâ ommissâ secundae pâr Ejus species elliptica obovata cuneata; Corio autem induta est et tribus nervis ornata aristamque ferit quae longitudine ad 5 mm. attinet et in dorso terminatur. Nervi laterales paene vel a basi pilis longis albisque teguntur. Palea longitudine glumae similis, angustior tamen et in dorso leviter pilosa prope apicemque leviter bifida, bicarinata, carinas exhibens minutis ciliis ornatas. Stamina tria. Styli duo. Stigmata plumosa. Granum hinc planum illinc convexum vel trigonum. Lodiculae minutae.

Primum G. A. Gammie repperit in loco nomine Bassein sito in provincia Bombay. Deinde R. K. Bhide in agro orizâ sato et aquis subsalsis irrigato juxta Bassein Railway Station Road collegit.

Sporobolus scabrifolius, Bhide, sp. nova.

Culmi erecti et longitudine a 22·7 usque ad 75 cm. Nodi glabri. Folia longitudine 2·5 ad 12·5 cm. latitudine 3 ad 9 mm. et prope basim rotunda aut subcordata, utrâque parte pilis tecta quae ad bases suas bulbi modo tumescunt. Margines paullum crassi et spinulis ita armatae ut quasi serrulae speciem praebeant. Ligula ut pilorum fimbriae. Vaginae glabrae sunt. Paniculae 7·5 ad 17·5 cm. longae, 2·5 ad 9 cm. latae, rami autem earum fasciculorum aut spirarum speciem praebent, aut nonnunquam solitarii vel bini. Spiculae circa 1 mm. longae. Glumae tres, quarum prima atque secunda vacuae ovatae acutae membranaceae, secunda autem longitudinae duae primae glumae partes. Tertia paullum brevior quam secunda et florem habens, speciem autem praebens ovatam, acutam, membranaceam, uno nervo fultam. Hermaphrodita est et paleam habet glumâ breviorem. Stamina tria, styli duo, stigmata plumea, granum rotundum atque ad terminos paullum rostratum. Lodiculae minutae.

Collegit Bhide in loco nomine Ranibennur sito in provinciâ Bombay ante diem Kal. Dec. ann. dom. MDCCCCX.

Second Part in English.

A new species of Chloris.

Chloris quinquesetica, Bhide.

Originally collected by Mr. G. A. Gammie at Bassein and since personally collected by me at Papadi near Bassein on the bunds of rice-fields on semi-salt lands along the road leading to the Railway Station, 30th August 1911.

Description:—A glabrous, perennial grass, creeping and

rooting at the lower nodes and there forming small tufts of leaves and an erect flowering stem reaching 2 feet high; nodes glabrous. Leaves 1 to 6 inches long by $\frac{1}{8}$ to $\frac{1}{2}$ inch broad, young ones sparsely, delicately long ciliate, ultimately glabrous, lanceolate, acuminate, truncate at the base, margins very minutely scabrid to touch, ligule a narrow, fimbriate membrane. Spikes 5 to 10 (18 in Mr. Gammie's specimen), 1 to 2 inches long, crowded in a very short racemose fascicle the branches of which—at least in Mr. Gammie's specimen—are decurrent into the peduncle for a short distance and form ridges on it which are also studded with stray spikelets. Peduncle below the spikes, and the rachis of spike hairy. Spikelets $\frac{5}{16}$ inch long with the awns. Glumes 7: I and II empty; III flowering, awned, paleate; IV, V, VI and VII barren, epaliate, gradually smaller and rounder, all awned. Gl. I $\frac{1}{16}$ inch long, elliptic, lanceolate, membraneous, strongly 1-nerved, slightly oblique: II $1\frac{1}{2}$ times as long as I, elliptic, oblong, membraneous, shortly mucronate, strongly 1-nerved: III (without the awn) as long as II, elliptic, obovate, cuneate, coriaceous, 3-nerved, and with a dorso-terminal awn $\frac{3}{16}$ inch long, lateral nerves densely bearded with long white hairs nearly from the base. Palea as long as the glume but narrower, slightly hairy at the back, very shortly 2-fid at the apex, 2-keeled, keels minutely ciliate. Stamens 3, styles 2, stigmas plumose. Grain plano-convex or trigonous. Lodicules minute.

A new species of Sporobolus.

Sporobolus scabrifolius, Bhide, collected by me at Ranibennur on November 30th, 1910.

Description:—Stems erect 9 inches to $2\frac{1}{2}$ feet long; nodes glabrous. Leaves 1 to 5 inches by $\frac{1}{8}$ to $\frac{3}{8}$ inch, lanceolate, rounded or subcordate at the base, hairy on both surfaces with bulbous based hairs; margins slightly thickened and spinulosely serrulate, ligule a fringe of hairs; sheaths glabrous. Panicle 3 to 7 inches by 1 to $3\frac{1}{2}$ inches, branches whorled or fascicled, a few solitary or twins intervening. Spikelets $\frac{1}{16}$ to $\frac{1}{20}$ inch long. Glumes 3, I and II empty, ovate, acute, membraneous, 1-nerved; I = $\frac{2}{3}$ of II; III flowering, just a little shorter than II, ovate, acute, membraneous, 1-nerved, paleate, bisexual; pale, shorter than the glume. Stamens 3, styles 2, stigmas plumose, grain rounded, slightly beaked at the extremities, lodicules minute.

I at first took it to be a variety of S. Coromandelianus; Dr. Stapf however says it is apparently a new species but = Wight No. 3309, which is not described in the "Flora of British India."

EXPLANATION OF PLATES.

Plate XXIV.

Sporobolus scabrifolius, Bhide.

A. part of plant, nat. size.
B. spikelet, enlarged.
C. glume 1.
D. glume 2.
E. glume 3.
F. pale of gl. 3.
G. stamens, pistil and lodicules
(details of spikelet, all enlarged).
H. leaf, nat. size.

Plate XXV.

Chloris quinquesetica, Bhide.

A. plant, nat. size.
B. spikelet, enlarged.
C. glume 1.
D. glume 2.
E. glume 3 and its pale.
F. stamens, pistil and lodicules found enclosed in gl. 3.
G. glume 4.
H. glume 5.
I. glume 6.
J. glume 7
(details of spikelet, all enlarged).

30. Preliminary Note on the Origin of Meteorites.[1]

By L. L. Fermor, D.Sc., A.R.S.M., F.G.S.

(With Plate XXVII).

I.—Introduction.

As a corollary to an investigation into the conditions of formation of garnets in the earth's crust, I have been led to certain conclusions concerning the origin of meteorites. Both branches of this investigation, namely the constitution of the earth's crust and the origin of meteorites, are being dealt with at some length in a paper under preparation for the publications of the Geological Survey of India; but the conclusions arrived at with reference to the origin of meteorites seem to me to be of sufficient general interest to warrant my placing before the members of this Society a summary of my results, in advance of the publication of the paper referred to.

It will be interesting to state briefly the steps that led me to consider, in the first place, the conditions of formation of garnets, and secondly the origin of meteorites.

Norms and modes.

In a paper in the *Records of the Geological Survey of India*. Vol. XLII, pp. 208-230 (1912), I have discussed the systematic position of a series of rocks known as the kodurite series[2] and found in the Vizagapatam district of Madras. In this paper I attempt to classify kodurite and garnet-rock according to the American quantitative classification. The classification proves to be unsuitable, and one cannot, therefore, recommend its adoption in India. But as the basis of this classification, its distinguished authors have selected certain standard minerals; the chemical analysis of any rock is translated into terms of these standard minerals, the mineralogical analysis so obtained being known as the *norm* of the rock, in contradistinction to its *mode* or actual method of crystallization; as the sequel indicates, this conception of the norm is of considerable value.

Now typical kodurite is composed of orthoclase felspar, a manganese-garnet known as spandite, and apatite. The norm of this rock shows orthoclase, leucite, and apatite, and in the place of the garnet no less than five minerals, namely anorthite, hedenbergite, wollastonite, tephroite, and magnetite. This

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[1] Published with the permission of the Director, Geological Survey of India.

[2] *Memoirs G.S.I.*, XXXVII, Chaps. XII & XIII (1909).

extraordinary difference between the mode and norm of kodurite led me to investigate the cause, in other words to ascertain why kodurite had not crystallised in the non-garnetiferous form. Comparison of the specific gravities of the norm and mode of this rock showed that the garnetiferous form (the mode) was of a considerably higher specific gravity and consequently occupied a considerably smaller volume (namely 10% less) than the non-garnetiferous form (the norm). This led to the conclusion that kodurite must have been formed under considerable pressure.

Garnetiferous rocks.

From this I was led to consider various other garnetiferous rocks, such as eclogite, and to arrive at the conclusion that the deeper one goes in the earth's crust the more abundant must the garnets become, on account both of the increasing pressure and of the increasing temperature, the high temperature inducing the molecular mobility necessary to permit the constituents of pyroxene, olivine, and anorthite, to rearrange themselves as the denser molecule garnet. The conclusion drawn was that below a certain depth all the ferromagnesian minerals, such as pyroxene, amphibole, olivine, and biotite, with anorthite, have rearranged themselves as far as possible into garnets, for thereby the maximum reduction in volume and absorption of heat is effected.

Infra-plutonic zone.

At present, petrologists regard the plutonic rocks, such as granite and gabbro, as the most deep-seated known rocks. But, under the effects of enormous pressures, the granites should become garnetiferous and the gabbros be converted into eclogites, and the conclusion seems inevitably to follow that beneath the rocks now known as plutonic there must be a zone of garnetiferous rocks extending downwards in a plastic-solid form as far as the presumed metallic core of the earth.[1] For this zone, unless a better term suggest itself, I propose the name *infra-plutonic*.

The characteristic minerals of the infra-plutonic zone will be those that occupy the least volume. The commonest mineral in the basic rocks will be *garnet*, and the nature of the associated minerals will depend upon the excess constituents left over after the maximum possible number of garnets has been formed. They will be various varieties of pyroxene or olivine, with occasional anorthite felspar. One other mineral may be specified as characteristic of the basic infra-plutonic rocks, namely *diamond*, which may be regarded as the mole-

[1] Except possibly that the shell between the garnetiferous zone and the metallic core, corresponding to the siderolites amongst meteorites, is frequently free from garnets owing to the absence of the sesquioxides of iron, aluminium, and chromium.

cularly dense form of the graphite occurring in rocks nearer the surface.

Normally, the infra-plutonic rocks will not reach the earth's surface, as their upward passage must in most cases be accompanied by a reduction of pressure whilst the temperature is still high, enabling the garnets to break down, with increase of volume, into less dense minerals such as pyroxene and olivine. Under certain special circumstances, however, particularly if a slow reduction in pressure is accompanied by a more rapid reduction of temperature, due to the lowering of the isogeotherms in a given part of the earth's crust, we may expect the eclogites finally to arrive at the surface; although even then there may often be a partial breaking up of the garnet with the production of the well-known *kelyphite* rims or *reaction borders* of some garnetiferous peridotites.

It is interesting to note that the original matrix of diamond proves in almost every case to be some form of peridotite or eclogite. For instance, the blue ground of the diamond-bearing pipes of Kimberley is a brecciated mass of altered peridotite and eclogite with scattered diamonds, and these pipes have evidently been filled from great depths below the earth's crust. It is possible that they have tapped the infra-plutonic zone.

II.—Origin of Meteorites.

Chondrules.

With this short introduction we may turn to the brief consideration of meteorites. Whilst I was about to attack this portion of the subject and was wondering if there were any recorded instances of the occurrence of a garnet in meteorites, my colleague Mr. Cotter brought me for opinion two thin slices of meteorites that he was engaged in describing. One of them (Baroti) represented a non-chondritic meteorite and the other (Khohar) a chondritic one.[1] The moment I glanced through the microscope at the chondritic meteorite I saw what the chondrules must once have been, namely garnets. The chondrule I was looking at was a globular, finely crystallised aggregate of enstatite, surrounded by a rim of metallic iron (see plate XXVII, fig. 1). The conversion of garnet to enstatite is easily explained by the following equation :—

$$\underset{\text{Garnet}}{3\,(Mg,Fe)O.Fe_2O_3.3SiO_2} = \underset{\text{Enstatite}}{3\,(Mg,Fe)SiO_3} + Fe_2O_3,$$

which requires an 8·5 % increase in volume. The ferric oxide, expelled by the crystallising enstatite, was reduced by graphite

[1] An account of these two falls, and of some other Indian falls, will appear in part 4, Vol. XLII, *Records of the Geological Survey of India.*

(or some reducing gas) in the matrix of the original rock with formation of metallic iron according to the following equation :—

$$2\ Fe_2O_3 + 3\ C = 4\ Fe + 3\ CO_2$$

The reduction of pressure must have been sudden, enabling each garnet to liquefy under the influence of the prevalent high temperature. The sudden reduction of pressure must have been followed by a rapid decrease in temperature, causing the liquid globules to crystallise quickly with the production of the various radiated structures due to enstatite alone, and the complicated intergrowths resembling eutectic crystallisations, when both enstatite and olivine have crystallised out. Such a combination of conditions seems to me obtainable only in one way, namely by the sudden disruption of a celestial body in which lay, under high pressure and temperature at some depth below the surface, a garnetiferous zone analogous to the garnetiferous infra-plutonic zone of the earth. The sudden disruption of this celestial body would account for the sudden reduction of pressure promoting the liquefaction of the garnets. The dispersal of the fragments produced by this disruption would doubtless be accompanied by a sufficiently speedy fall in temperature to cause the rapid congelation of the liquefied garnets.

Since it is possible to suggest this very simple explanation of the formation of chondrules, it is necessary to see whether such facts as are available support the idea. Returning to the original slide of the Khohar meteorite it is noticed that the degree of perfection of the iron-rim round each of the chondrules is very variable, and in some cases the iron is almost absent. This variation in the character of the iron border is to a certain extent correlative with variations in the character of the chondrules themselves. One particular chondrule of enstatite affords very convincing evidence. (See plate XXVII, fig. 2). It is apparent from the slide that the enstatite has crystallised very rapidly, starting from a point on one side of the chondrule, and that, as the radiate needles of enstatite increased in length, they pushed before them the surplus ferric oxide. Consequently, most of it occurs on the side of the chondrule remote from the point at which crystallisation started, not, however, as oxide, but in the metallic state, having been reduced outside the chondrule, probably by graphite in the matrix. A certain amount of the iron has become entangled between the enstatite needles, and indicates that there may have been inclusions of some form of carbon within the original garnet itself. The matrix of the rock between the chondrules consists largely of enstatite, olivine, and nickel-iron. These are to be regarded as original constituents of the rock as it existed in the primitive celestial body. When the pressure was released they suffered no appreciable change, ex-

cept that the expansion of the garnets on liquefaction tended to produce brecciation of the rock, such brecciation being a common feature of chondritic meteorites. Other writers have noticed such metallic rims to chondrules, without explaining their occurrence.[1] As a result of the reaction given above, CO_2 (or CO) must have been formed. It is important to notice that both these gases are well known in meteorites.

Achondrites

If the chondritic meteorites represent the garnetiferous or infra-plutonic zone of the primitive body, then non-chondritic meteorites, which are otherwise very similar to the chondritic ones, should represent the plutonic zone lying immediately above the infra-plutonic zone. In the same way the siderites or iron meteorites should represent the metallic core of this primitive body, and the siderolites, which are mixtures of metallic nickel-iron and of various silicates, should represent the passage zone between the infra-plutonic zone and the metallic core. The chondritic meteorites also contain a considerable amount of primary nickel-iron (that is, apart from the iron formed on the breaking down of the original garnets), and it is evident that we should expect the amount of nickel-iron in the crust of this primitive body to decrease with distance from the centre. The non-chondritic meteorites, therefore, if they represent the plutonic zone, should contain less nickel-iron than the chondritic meteorites, which represent the infra-plutonic zone. This is, in general, the case.[2]

Siderites and siderolites.

Primary nickel-iron in aerolites.

The theory appears, therefore, to be justified by the facts. Let us now see if the iron meteorites offer any evidence of these supposed reductions of pressure. Siderites frequently contain carbon, usually in the form of graphite, but occasionally as diamond, as in the Cañon Diablo meteorite. In Moissan's work, the 'Electric Furnace,' page 96, there is given a figure of a portion of this meteorite in which the central fragment of diamond is surrounded by a black sheath consisting of carbon and iron carbide. Assuming this iron carbide to have the composition of cementite[3] (Fe_3C), found in artificial iron and steel, I find that under the greatest pressure a system of iron and carbon would exist as iron and diamond. A small reduc-

Diamond and iron carbide.

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[1] *e.g.* H. L. Bowman and H. E. Clarke, *Min. Mag.*, XV, D, in Fig. 3 of Plate IX (1910). (The Chandakapur aerolite).

[2] Fletcher: 'An Introduction to the Study of Meteorites,' 1904, page 38; also the classification of meteorites given on pp. 447, etc., of Wülfing's 'Die Meteoriten in Sammlungen,' 1897.

[3] Similar to cohenite $(Fe, Ni)_3C$, a well-known meteoritic mineral. Moissan's value (7·07) for the density of artificial cementite has been taken, the published values for natural cohenite being very variable;

tion of pressure would lead to a reaction between the outer shell of the diamond and the surrounding iron with an increase of 2·7 % in volume calculated on the constituents that participated in the change. With a further decrease in pressure the carbide would itself break down into metallic iron and graphite with a 5·1 % increase of volume, whilst the remaining diamond would pass into graphite with a 57·8% increase of volume. From the Cañon Diablo meteorite we obtain, therefore, indications of a small release in pressure, promoting the formation round the diamond of a carbide zone analogous to the kelyphite rim round garnets in certain eclogites. In certain siderites the carbon exists entirely as graphite, indicating a considerable release of pressure: in certain others, such as the one just referred to, a portion of the carbon has escaped conversion into graphite. The difference we can easily explain by supposing that the diamond-bearing siderites separated from the primitive body as larger fragments than the non-diamond-bearing siderites. With fragments of either size, the rapid cooling of the outer shell caused contraction and a consequent application of pressure to the interior. In those fragments above a certain limiting size, dependent on the temperature gradient, the pressure thus applied to the interior would prevent the passage of diamond into graphite, as in Moissan's experiments on the artificial production of diamond.[1]

Cliftonite.

Cliftonite, discovered by Fletcher in the Youndegin iron, is regarded as a third modification of carbon, differing from graphite in its absence of cleavage.[2] It occurs in small cubes modified by other faces, and is generally regarded as paramorphic after diamond.[3] Its specific gravity is 2·12, as compared with 3·50 for diamond. This case of paramorphism may therefore be regarded as another change induced by decrease of pressure. Cliftonite has been found in several other meteoric irons, namely, Magura, Cosby's Creek, Toluca, and Smithville.

Nickel-iron alloys.

It is to be noticed that if my explanation is correct, namely that the various types of meteorites have resulted from the disruption of a primordial body with release of pressure, then at great depths in this body the nickel-iron alloys of the siderites did not exist, the two metals being separate; for the breaking up of kamacite ($Fe_{14}Ni$) into iron and nickel means a decrease in volume

some of them are high enough to show that the carbide is a higher pressure mineral than diamond, and that on release of pressure carbide would pass into diamond, and diamond into graphite.

[1] Another explanation would be that the diamond-bearing siderites represented those parts of the metallic core of the primitive body that were most rapidly cooled.

[2] *Min. Mag.*, VII, pp. 126-130 (1887).

[3] Cohen, Meteoriten Kunde, I, pp. 140-1.

of 0·93%, and of taenite (Fe_3Ni) a decrease of 7·3%. On this interpretation the crystalline structures of many siderites must be of secondary origin, due to the formation and crystallisation of nickel-iron alloys on release of pressure.

Weinbergerite.

I must also refer briefly to one other case explicable in terms of relief of pressure, as it concerns a siderite containing nodules of silicates, and therefore approximating to the siderolites. This is the Kodaikanal meteoric iron. The silicate nodules have been found by Berwerth[1] to contain spherulitic aggregates of a mineral to which he gives the name *weinbergerite*, and assigns the chemical formula $NaAlSiO_4 + 3FeSiO_3$ (nepheline + pyroxene). As in the case of enstatitic chondrules, this mineral may have been derived from an original garnet (alkalibearing, like lagoriolite[2]) on release of pressure. The equation might be shown as follows :—

$$6FeO.2(Mg,Ca)O.(Na,K)_2O.Al_2O_3.2Fe_2O_3.9SiO_2 =$$
Alkali-garnet
$$(Na,K)_2O.Al_2O_3.2SiO_2 + 7(Fe,Mg,Ca)SiO_3 + FeO + 2Fe_2O_3.$$
Nepheline Pyroxene

The oxides of iron are seen—partly reduced to metallic iron—surrounding the weinbergerite. The epikamacite shell to each grain of nickel-iron alloy in the meteorite may be due to an allotropic change of the outer shell of each grain with increase of volume, due to the same release of pressure as permitted the breakdown of the garnet.[3]

There is one other point that requires notice. The crust of our globe is largely occupied by rocks, igneous, metamorphic, and sedimentary, of a much more acid composition and a much lower specific gravity than the average meteorites. We have

Moldavites, etc.

postulated a primitive body which by disruption has given rise to the various classes of known meteorites; but it would be unreasonable to suppose that this primitive body was devoid of a lighter and more acid crust than is represented by the stony meteorites. Such a crust should not only be on the average more acid than stony meteorites, but, owing to its position, some of its constituent rocks should show the glassy and fine-grained texture characteristic of terrestrial volcanic rocks. Do we now find on the earth any remnants of this supposed crust? Among the objects that are commonly reckoned as meteorites we do not, but there is a class of objects found in river gravels in many countries, and known as *moldavites*, *billitonites*, and *obsidianites*,

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[1] *Tschermak's Min. u. Petr. Mitt.*, XXV, pp. 179-198 (1906).
[2] *ibid.*, XVIII, pp. 147-155 (1899).
[3] For Berwerth's explanation of the formation of the epikamacite see *l.c.*, p. 196.

that are of relatively acid character, are light in weight, and of glassy texture. The origin of these bodies is not known, but some petrologists are inclined to regard them as of extra-terrestrial origin; in no case, however, have they been seen to fall. If there be any foundation for this suggestion, then, obviously, these obsidianites might have been a portion of the crust of the primitive body postulated above.[1]

Meteoritic hypothesis concerning formation of solar system.

Thus far I have considered meteorites from the petrological point of view, and, on the evidence of the microscope and chemical composition, have deduced that all the varieties of extra-terrestrial bodies found on the earth's surface may be ascribed to different portions of a primitive celestial body that has undergone disruption. We must now see how this hypothesis agrees or conflicts with the deductions of astronomers. Sir Norman Lockyer's meteoritic hypothesis has been before the public for many years, and in many ways offers a satisfactory explanation of the origin and relationships of shooting stars, nebulae, comets, stars, and planets, including the origin of our own solar system. His theory seemed, however, to be lacking in one respect. He did not explain the production of the swarms of meteorites constituting the nebulae. In his recent work 'The Evolution of Worlds,' Professor Lowell explains this point satisfactorily and carries back the history of evolution one stage further. Consequently, I will give here a very brief summary of Lowell's account of the origin of the solar system.

Postulating infinite space, infinite time, and an infinite number of stars, both light and dark, distributed through space, let us consider the case of a dark star. This dark star represented a former hot, bright star or sun that had cooled down in the course of ages, becoming solid and externally cold like the inner planets of the solar system—a condition that our own sun will one day inevitably attain. This dark body was progressing through space with a high speed of bodily translation and a certain speed of rotation about its axis.

During the infinite course of time, sooner or later, another celestial body must inevitably collide with, or approach close to, our dark sphere. Let us suppose that another celestial body of equal size passes close to (not further off than 2·5 diameters), but does not actually collide with, our dark sphere. As a result of the approach of this disturbing sphere our body will suffer disruption due to tidal stresses. We may imagine the tearing off of two hemispherical caps, which, still possessing their speed of rotation and leaving the parent sphere from opposite sides, will be flung out into space as a spiral nebula, composed of myriads of fragments—in fact, small meteorites—

[1] See A. Hutchinson, *Chem. Soc. An. Rep.*, VIII, p. 267 (1911).

of our original sphere. This spiral nebula will have as nucleus a *nova* or new star consisting of the core of the primordial dark body. As the disturbing body moves away in its course through space, the central nova or sun will gradually obtain gravitational control over its spiral nebula, forcing the constituent parts of the nebula into closed circuits round itself as centre. Wherever the meteorites of the nebula are thickest (the knots of the nebula) they will aggregate together, forming small hot bodies that subsequently cool down into planets, whilst other portions of the meteoritic debris will fall into the central sun.

Thus, according to Lowell, was our solar system born. But many fragments of our primitive sphere have fallen neither into the sun nor into any of the planets and are still pursuing their course round the sun as integral units of the solar system. Numbers of these small bodies daily enter our atmosphere and are burnt up during their rapid flight. Occasionally a larger fragment succeeds in reaching the earth's surface before it is entirely dissipated. Such fragments constitute the meteorites of our museums.

Cause of absence of acid meteorites.

They are, as we see, if Lowell's story is to be accepted, fragments of a world that existed prior to the birth of the solar system, and are therefore older than any portion of this system. Our petrological investigations have demanded the disruption of a solid body to account for the various known types of meteorites. Lowell's story of the evolution of the solar system provides us with such an event, and incidentally enables us to clear up one point, namely, the absence among our meteorites of acid rocks, with the exception of the doubtfully extra-terrestrial obsidianites previously referred to. At the time of disruption of our primitive dark sphere, the outer portions of the crust were naturally flung the furthest distance from the nucleus along the spiral arms of the nebula. Consequently, when this nebula was converted into the solar system, the outer crustal portions of the primitive body gave rise to the outer planets Jupiter to Neptune, which have an average density of only 1·09; whilst the lower zones of the crust, presumably with part of the metallic core, gave rise to the inner planets Mars to Mercury, which have an average density as high as 4·36, the specific gravity of our own planet being the highest, namely 5·53.[1] Consequently, the ungarnered fragments of the original disruption that still course round the sun between the inner planets must represent lower and denser shells of the

[1] Part, of course, of this difference of specific gravity is to be attributed to different degrees of condensation attained by the various planets.

original sphere than those fragments that still circulate in the zone of the outer planets. This deduction agrees with the constitution of such meteorites as reach the earth. Consequently, we must view with considerable doubt the possibility of the obsidianites being extra-terrestrial.

31. On the Persian Farmans granted to the Jesuits by the Moghul Emperors, and Tibetan and Newari Farmans granted to the Capuchin Missionaries in Tibet and Nepal.

By Rev. Fr. Felix, O.M.C.

My principal object in coming to Calcutta was to search for the manuscripts on the Geography, History, Customs and Literature of Tibet and Nepal, left by the Capuchin Fathers, who for more than half a century laboured in those countries from the beginning of the 18th century.

While I am still in pursuit of some of these manuscripts, I discovered a few years back, in the Mission Archives of Agra, a good many Persian *farmāns* connected with the Jesuit Mission in Mogor. On exhibiting these privately to some members of your Society, I was asked by one of them to lay before you, for inspection and examination, the fruits of my researches. I readily accepted the offer: first, in order that by doing so I might remove from the minds of not a few learned Orientalists the doubts they may have on their real existence; and secondly, to find means to bring them to light, and thus to rescue them for ever from the dust of inaccessible libraries in which they have been buried for centuries.

Now the documents, which I have the pleasure to lay before you, Gentlemen, belong to different countries and are written in various languages.

Before dealing with the Persian *farmāns*, which all belong to the Moghul epoch, and spread over a period of two hundred years, it will not be out of place to state first the nature of a *farmān* and give a brief description of it.

Any paper authenticated by proper signatures is called a *Sanad*. Some *sanads*, which my collection exhibits, have nothing but the royal seal; others were first authenticated by the seals and signatures of the Ministers of State and afterwards ratified by affixing the royal seal; while a third class have only the seals and signatures of the Ministers without the royal seal. A *farmān* has the signatures of the Ministers together with the royal seal. *Farmān* is a Persian word derived from *farmūdan*, 'to order,' and when put in the mouth of Kings and Superiors, it signifies 'to say,' 'to speak.' Its origin may easily be traced to the Sanskrit word *Pramāṇa*, *pramān* and *parmān*, which means 'authority,' 'attestation' or 'scriptural assertion.' Hence, the Persian word means 'a command,' 'a mandate,' 'a royal patent,' and it is the general

term applied to royal mandates. According to Gladwin (*Ayeen Akbery*), it denotes a 'command of the emperor,' a royal commission. In Bengal the term was used for a patent to trade duty free. By way of eminence it means the charter which the East India Company obtained from Emperor Farrukh Siyar, granting them the liberty of trading and other privileges. (Cf. H. Beveridge, *Comprehensive History of India*, Tom. I, p. 388). The expression *farmán-i Sháhí*, meaning the 'royal mandate,' is commonly used in the Persian and Urdú languages, the Arabic equivalent being *Marsúm*.

The *farmán* usually takes the following form, as may be seen on the mandates:

1. It begins with the holy name of God, such as *Alláhu Akbar*, 'God is great.' This formula reminds us of Akbar's name *Jalálu-d Dín Muhammad Akbar*. The words *Alláhu Akbar* are ambiguous: they may mean 'God is great,' or 'Akbar is God.' There is no doubt that Akbar liked the phrase for its ambiguity, for it was used on coins, the imperial seals, and the heading of books, farmáns, etc. (See Blochmann's *Ain-i Akbari* by Abul Fazl, Book I, Ain 77, p. 16; Badáóní, p. 210).

2. Then, according to Abul Fazl, the *Muhr* or seal of his Majesty is put. The imperial seals of Akbar and Shah 'Alam, as may be inferred from the *farmáns*, have a turnip shape with a decorative border of conventional flowers. These seals cut in *riqá'* characters contain the emperor's name with those of his predecessors up to Timúr. His Majesty's own name is to be found in the centre and is encircled by the names of his forefathers.

3. Under this seal comes the *tughrá*,[1] or imperial signature, which contains the full name and titles of the king, written in a fine ornamental hand in the *Naskh* character.

4. Lastly, the text of the farmán is given in *Nasta'líq* (a fine round hand) or *shikastah* (a broken writing, a running hand) with date at the end, usually the Persian or Turkish month and the year of accession of the reigning king. The practice of

[1] Tughrá is the imperial signature. The royal titles prefixed to letters, diplomas or other public deeds are generally written in a fine ornamental hand. The great men of the East have long been admirers of calligraphy, or elegant writing. Some of the most distinguished Viziers have prided themselves on being the finest penmen of the age; amongst the most remarkable was the celebrated *Hussain or 'Alí-Ismaíl* (Vizir to the Seljúkian Sultan *Mas'úd*) surnamed *Tughrai*, on account of his excellence in this species of writing, but better known in Europe by his admired Arabic poem entitled *Camera Tograi*. Being taken prisoner in a battle, wherein his sovereign was defeated by his brother *Malemíd*, he was put to death (A.D. 1127) by that prince's Vizir, who hated him for his great abilities, but particularly, it is said, for his uncommon superiority in writing the Tughra character. Ch. Wilkins' *Persian, Arabic and English Dictionary*.

ing *farmāns* dates from time immemorial. It was the practice of kings addressing their subjects on any point or matter. Though, presumably, very ancient *farmāns* may still exist, they are scarce and rare; some may be found which belong to the early Muhammadan Kings of Delhi; but old *farmāns* and documents of the later Muhammadan Kings, especially of the Moghul Emperors, are very common.

On the back of the *farmāns*, particularly of those belonging to the Moghul period, are inserted explanations of various offices: hence, we may reasonably conclude that the offices connected with the imperial mandates were in order, and several in number. Another striking feature worthy of note is that the *farmāns* were written on paper of different quality and size, some on simple paper, others on illuminated paper decorated with flowers and foliage, according to the position or rank of the people to whom they were addressed.

I do not intend, Gentlemen, to give you at present a detailed description of each of these *farmāns*; I reserve for the near future their publication: clear and legible impressions, their transliterations and English translations, with the necessary commentary notes as to the time and circumstances in which they were issued.

I. To begin with the first category which contains, as you will observe, Persian scripts, some are *Sanads*, also called *Parwānas*, of the different orders described above: but the collection exhibits also *farmāns* of different kinds, shapes, forms and quality, called *Farmān-i-'Āli Shān*, 'the exalted or the imperial mandate'; *Farmān-i-Wājibu-l imtisāl*, 'ordinances necessary to be obeyed'; *Farmān-i-Jalil-'unwān*, 'diplomas with the illustrious imperial signature' and other similar names. This collection begins with *farmāns* from the greatest of the Moghul Emperors in India, in his time the greatest monarch in the world, Akbar. Having become dissatisfied with Muhammadanism, the religion of his ancestors and of his country, he sent repeatedly messengers to Goa, requesting that some qualified Christian teachers would come to him, and assuring them of a safe journey and an honourable reception. On their arrival at the imperial court, Akbar treated them with much respect and gave them liberty freely to propagate their religious sentiments, assuring them of his protection of themselves and their proselytes. The history of this Mission, the vicissitudes it had to undergo, the persecutions on the part of the Muhammadans which it had to endure, will ever make us admire the moral courage, the zeal, and the perseverance of the Jesuit Fathers at the Moghul court. In fact, there is no part of the history of Catholic missions in India which exhibits scenes of more interest than some which occurred at Fatehpur-Sikri, Lahore, Agra and Delhi. The publication of these *farmāns* will form a firm basis, an immovable ground-work upon which the

history of the Catholic missions in the Moghul Empire must be written from the '*litterae annuae*' of the Jesuit missionaries. These *farmāns*, I am glad to say, confirm and corroborate the Jesuit letters even in their minutest details. Is it not remarkable, that we should meet in the heart of Hindostan, under the shadow of the only two imposing structures of Moghul might and supremacy which escaped the ravages of time and the devastation of successive invasions,—the Agra Fort, that powerful bulwark of the Moghul Empire, and the Tāj, that marvel of Muḥammadan architecture, that tomb unique in the world, where Shāh Jahān lies buried near his favourite Sulṭāna,—that we should meet, I say, in that very city, the only two remaining Christian buildings of that epoch, proclaiming in their decent modesty the history of the Jesuit Mission in Northern India: Akbar's Church in the Mission compound and the Martyrs' Chapel, that resting place, dating back as far as 1611, where most of the Jesuit Fathers who laboured in Mogor lie interred?

It was under Akbar, the most tolerant as well as the ablest of the Moghul Emperors, that this church was erected. It has now existed more than 300 years, a long period when the important revolutions of that interval, the absolute authority of the monarchs, and the characteristic intolerance of their religion are considered. Is it not remarkable, too, that this unprotected altar of a faith equally obnoxious to the Muḥammadan and Hindū rulers, which the slightest breath of displeasure from either might have swept away, should have remained untouched amidst convulsions which have subverted monarchies and changed religions of state? It is true Shāh Jahān, after the fall of Hugli, had this church pulled down, but the altar remained. Aurangzeb, always jealous of whatever might diminish or disturb the unprecedented extent of his power, viewed the Christian edifice with some degree of disapprobation, and yet an order to remove the bell, which might interfere with the prayers of the Mussulmans, may be considered as an act rather of moderation than of intolerance or persecution.

Among the Persian *farmāns* we find one of Akbar, granting the building of a church in Cambayat town, and ordering that the administrative authorities of that place should not stand in the way. Churches also were built during his time at Lahore and Agra. Other documents belonging to the reign of Jahāngīr either corroborate the permissions granted by his father in favour of the missionaries, or bestow land on the Firingīs for making gardens and cemeteries. One was issued in the 10th year of his reign with regard to providing accommodation for the English who were put up in the house of the Padres in Jawahari Warah at Aḥmadābād. We find even a *Sanad* of the staunch Muḥammadan Aurangzeb, dated the 37th year of his reign and bearing the seal of his minister Asad Khān, exempt-

ing the Christians and the priests from the capitation tax. Others on the same subject from Bahādūr Shāh, Muḥammad Shāh, and 'Ālamgīr are common.

'Alī Gauhar, son of 'Ālamgīr II, known under the name of Shāh 'Ālam, was still more liberal. He granted the Dervish Padre Gregory, for his maintenance, the village Imadalpur of the Amlah Hawaili Palam, in the Province of Dar-ul Khilafah of Shāhjahānābād, free from all vexations of the revenue department and imperial taxes.

II. The second category shows two Tibetan diplomas in '*Umin*' or '*Umin chuk*' characters. The larger one is of Mi-Vagn, King of Tibet, at his residence of *Kadem Khanzar* in the year of the Iron Bird, the 30th of the seventh moon, which corresponds to the 9th September 1741 of the Christian era. The second is from the hand of the Dalai Lama, written and given at his great palace of Potala, the 28th of the first month of the star, called *Thrumto*, in the year of the Iron Bird, which is according to our reckoning October 7th, 1751. Both these instruments were given by the King and the Dalai Lama to the Capuchin Fathers, and allowed them to preach freely the Christian Religion, and their Tibetan subjects to embrace it unmolested. The original mandates are still preserved in the Archives of the Propaganda in Rome, where I found them written in a beautiful hand, on large yellow silk sheets, as is the custom at the Court of Lhasa. Both are duly authenticated with red-ink impressions of the seals of the King and the Dalai Lama. And yet who would believe it? Rash critics, French and English, have not only doubted their authenticity, but radically denied it. They considered them as '*impudent forgeries*,' styled the simple missionaries '*impostors*,' and applied to them the unwarranted epithet of '*sycophants*.' Now, learned Gentlemen, I present to you photos of these '*impudent forgeries*,' of these autograph letters, and as a monk myself and an historian, I am in duty bound to refute on behalf of these '*detestable Orders of Friars*' [1] the false accusations and calumnies made against them by unscrupulous critics. If the slightest doubt remains about them, I would invite you, honorable members of this famous and erudite Society, to go to Rome, and inspect for yourselves the autograph letters, exhibited in the library of the Urban College de Propaganda Fide, where Stephen Borgia, Secretary to that Congregation, wished them to be kept.

III. Here are three Newari or Nepalese inscriptions, one from King Jaya Ranagita Malla Deva, King of Badgao in Nepal, dated in the Newari year 858, 7th moon, or 31st October 1737.

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[1] *Histoire Générale des Voyages*, Tom. XXVII, p. 290 *et sqq.* among the notes; Astley's *New Collection of Voyages and Travels*, London, 1747, Tom. IV, p. 620, among the notes.

The second is a deed of Jaya Prakas Malla Deva, Prince of Katmandu, dated 862, of the Nepal era, dark half of the moon, or November 10th, 1740. Both these were engraved on copper plates, and are grants of houses, gardens and wells, made in perpetuity to the Capuchin Fathers. I myself placed the originals in our *Museo delle Missioni* in the Capuchin Convent of Via Buon Compagni, Rome.

The third is a writ by King Jaya Ranagita Malla, King of Nepal (Badgao), and is a deed of freedom of conscience to the same Capuchin Fathers. The autograph is preserved in the Propaganda Archives, Rome.

IV. Finally, the Hindi script is an autograph letter of the King of Bettiah to the Sovereign Pontiff Benedict XIV, asking him for missionaries to preach the Christian Religion in his Kingdom. After the expulsion of the Capuchin Fathers from Tibet, some retired to Nepal. Fr. Giuseppe Maria de' Bernini went to Bettiah, where under the patronage of the King he opened a new mission, which still exists in a most flourishing condition. The original letter exists also in the Archives of the Propaganda, Rome.

Now, Gentlemen, I have at great cost, arduous toils, and tiresome journeys tried to collect all the materials connected with the Catholic Missions in Tibet and Nepal, and I must now find means to publish them in English. This publication will be the more important because it includes in one volume all that the Catholic missionaries have written or said on Tibet and Nepal, from the 13th century down to the middle of the 18th. Who among you heard of Fr. Joseph d'Ascoli who entered Lhasa on the 19th of June 1707 with his companion Fr. Joseph Francis de Tours and stayed there till 1712? He left us an '*Itinerario de' Cappuccini dal Mogol al Nepal nel* 1707.' Domenico da Fano, another Capuchin, wrote a Latin-Tibetan dictionary as early as 1712, which is preserved in the 'Bibliothèque Nationale de Paris' (*Recherches sur les langues Tartares Tom.* 1, *p.* 336). Clements R. Markham rightly remarks that "Horazio della Penna studied Tibetan at Lhasa for twenty-two years," and Emil Schlagintweit in his *Buddhism in Tibet* (pp. 146-147) says: "The most important event for our knowledge of Tibetan Buddhism was the Capucini mission under the superintendence of Horacio de la Penna.... They (the Capuchins) collected much valuable information concerning the geography of the country, and the history, religion, manners and customs of the inhabitants. Horazio della Penna was particularly distinguished by an ardent zeal in the cause of Christianity; he translated into Tibetan a catechism of the Christian faith; the Doctrina Christiana of Cardinal Bellarmini; the Thesaurus Doctrinæ Christianæ of Torlot, and he also compiled a Tibetan-Italian dictionary." But, Gentlemen, the Propaganda Archives contain many other valuable and un-

known accounts of the religion of Tibet, written by this very able friar, all of which I have copied. He translated moreover from Tibetan into Italian :—

I. *Sakya-tuba namtar*, or the History of Sakya Tuba.
II. *Lam-Rim cembe*: the three great ways which gradually lead to perfection
III. *Chiop-su-Drova*, or Principles which the Lamas have to follow.
IV. *Sozar tharbe*, or prescriptions to escape the manifold transmigrations.

He wrote besides the Tibetan-Italian dictionary referred to by Schlagintweit, an Italian-Tibetan dictionary composed of 33,000 words. These two last MSS. were found last year in "*Bishop's College*," Calcutta, where I inspected them and found them to be in Fr. Orazio della Penna's handwriting.

Who among you ever read the marvellous account of a journey to Lhasa by Cassiano de Beligatti of Macerata in 1741, lately discovered in the Municipal Library of Macerata in Italy, and published at Firenze, 1902, by Professor Alberto Magnaghi under the title "*Relazione inedita di un Viaggio al Tibet del Padre Cassiano Beligatti da Macerata (prima meta del secolo XVIII)*"?

Who heard of the Jesuit Father Ippolito Desideri's voluminous account of the geography, history, religion, and customs of Tibet, edited by Professor Carlo Puini in the 'Societa Geografica Italiana,' Rome, 1904, Memorie, volume X? (*Il Tibet, Geografia, Storia, Religione, Costumi, secondo la relazione del viaggio del P. Ippolito Desideri*, 1715-1721).

When in 1828 the able oriental scholar, Mr. Hodgson, first attempted to make known to the English the Nepalese language, and the literature and religion of that country, he had been preceded in the field half a century before, in Italy. The Capuchins of the Tibetan Mission had penetrated into Nepal at the dawn of the 18th century, and many among them had mastered the language and literature of that country as is evidenced by the publication of various ascetic works and translations of some Nepalese books. The latter essays suppose rather developed notions and more advanced studies than even the actual ones we possess of the Nepalese language. Voluminous dictionaries in manuscript, Italian-Newari, etc., were still extant at Bettiah some six years ago.

In 1771 the Library of the Propaganda was endowed with five manuscripts in the Nepalese tongue and character, about which nobody now feels the least concern, and the most interesting of which, however, deserves the honour of publication. Four of them are ascetic treatises on the Catholic Religion. They were brought to Rome by Father Anselm de Ragusa of the Capuchin Order, and Superior at that time of the Tibetan

Missions. These precious volumes were offered the same year to the Propaganda and placed by the Secretary of that Congregation, later Cardinal Borgia, in the Bibliotheca Collegii Urbani de Propaganda Fide. It is the more important to call the attention of Indianists to these MSS., because they are simply mentioned by Amaduzzi in his preface to the *Alphabetum Bramhanicum*, published in 1771 (p. 17), a work which is now obsolete. The donor deposited at the same time another volume, infinitely more precious. The manuscript, *ex charta radicis arboreæ*, contains a description of the deities, customs, ceremonies, etc. of that country, written in Nepalese, with a transliteration and an Italian translation, by Constantin d'Ascoli, and ends with a Nepalese Alphabet.

These few notes, Gentlemen, which I could easily multiply, will give you an idea of the vast amount of unpublished materials in my possession, and will afford ample proof that I need help for publishing them.

32. Bhaṭṭa Bhavadeva of Bengal.

By Monmohan Chakravarti.

Bhavadeva is one of the very few survivals of old scholars in Bengal. Though classical, very little is known about him. Even the time he lived in is not settled. I propose, therefore, to discuss the subject under the following heads :—

A.—His Literary Works.
B.—His Temple.
C.—His Ancestors.
D.—His Date.

A.—Literary Works.

(i) *Karm-ānuṣṭhāna-Paddhati.*

Otherwise known as *Daśa-karma-paddhati*, *Saṁskāra-paddhati* or *Chāndoga-paddhati*. It is the best known of his works, and has been repeatedly printed. It describes the *saṁskāras* or purifying ceremonies which should be performed by every member of the twice-born castes. Those rites are described according to the Chāndoga schools of the Sāma-veda. To the Kauthumī school of the Sāma-veda belong the bulk of Rāḍhīya and Vārendra Brāhmaṇas of Bengal, and therefore the importance of this compilation for Bengal can be well understood.

After salutation to the god Brahmā, the work begins with—

गृह्यसूत्रार्थमालोच्य छन्दोगानामियं क्रमात् ।
कृता श्रीभवदेवेन कर्मानुष्ठानपद्धतिः ॥ [२ ॥]

Then follow detailed descriptions of marriage and other domestic ceremonies to be performed by a *dvija*. The ordinary texts end in a colophon ascribing the work to Bhavadeva Bhaṭṭa without any epithet. As more than one Bhavadeva flourished in Bengal, this leaves the authorship rather doubtful. However, the Calcutta Sanskrit College MS. No. 52 has at the end the following colophon :—

श्रीवालवडभीभुजंगभुजाभिमतविपत्तप्रतिवैनतेयपाषण्डखण्डननाग-
रिक्लोकवाचस्पतिप्रश्रयकेलिनीलकंठभट्टश्रीभवदेवविरचिता छन्दोगानां
विवाहादिकर्मानुष्ठानपद्धतिः समाप्ताः ॥

The epithet *Bāla-vaḍabhī-bhujaṁga* fixes the work as of our writer.

This Sanskrit College MS., having as the date of its writing Śaka 1715 or A.D. 1793, differs to some extent from the ordinary texts. For example, at the outset while describing the important ceremony of the kuśaṇḍikā in marriage, it reads कुशकुसुमसहितं (with kuśa grass and flowers) for merely कुशसहितं, again in the same ceremony दक्षिणहस्तेन कुशमेकं गृहित्वा (having taken one kuśa grass by the right hand) for दक्षिणहस्तधृतिकुशमूलेन, and so on. As this Paddhati is the classical guide for Śāma-vedis in Bengal, an edition carefully collated appears desirable.

(ii) *Tautātita-mata-tilakam.*

As yet found in only one manuscript, the MS. No. 2166 of the India Office Library. I had an opportunity of examining it through the kindness of the Librarian Mr. Thomas. It is a fragment, both the beginning and the end being lost. The end must have been lost before Saṁvat 1718 or A.D. 1661, for the last leaf bears an endorsement declaring that the MS. was bought by one Śaṅkara, son of Bhatta Nīlakaṇṭha, on the eleventh tithi of the bright half of the month Jyeṣṭha, Saṁvat 1718. This endorsement of sale also shows that the MS. must have been written a good many years before A.D. 1661.

The fragment has only two colophons. In both colophons the work is named *Tautātita-mata-tilakam*. The work is a gloss on the views of *Tautātita* or Kumārila Bhatta, and discusses his *Tantra-vārtika*. The latter is a commentary on the *Bhāṣya* of Śabara Svāmin which comments in turn on the original *Mimāṁsā-sūtras* of the sage Jaimini. The fragment that I have seen deals with only a very small portion of the Sūtras, viz., the fourth foot of the first Adhyāya and the first foot of the second Adhyāya. The remarks of the author disclose a good grasp of Hindu philosophies, the author naturally supporting the Mimāṁsā Sūtras. Besides references to the *Bhāṣya* and the *Bhāṣya-kāra*, the *Vārtika* and the *Vārtika-kāra*, other allusions are extremely scanty. I have found only two, *Bādere-r-mata* (i.e. the *Brahma-sūtra* of Bādarāyana) in fol. 66, and *Siddhāṁte* in fol. 44b.

This work was apparently treated as an authority of the Pūrva-Mimāṁsa philosophy. In his treatise on Mimāṁsā, the *Tantra-cuḍāmaṇi*, Kṛṣṇadeva noticed that the *Tantra-vārtika* was annotated by Bhavadeva, Ambeka, Pārtha-sārathi, Someśvara, the author of the *Pārāyaṇa*, and Paritoṣa.[1]

1 Hall's *Index to the Bibliography of Indian Philosophical Systems*, p. 170.

(iii) *Prāyaścitta-nirūpaṇam.*

Two manuscripts in the Sanskrit College, Calcutta (Nos. 183 and 184) and a copy made recently therefrom I have seen. I have further consulted the abstracts given of the India Office Library MS. No. 561, of the MS. No. 3138 in R. L. Mittra's "Notices" (IX. 314), and of the MS. No. 240 in H. P. Shāstri's Notices (I. 237). The work begins with salutation to Vāsudeva (not Brahmā as in the *Daśa-karma-paddhati*) and then says :—

मन्वादिस्मृतिमालोच्य सं (or सु)विविच्य यथाक्रमम् ।
क्रियते भवदेवेन प्रायश्चित्तनिरूपणम् ॥ [२ ॥]

In the colophons of its first five paricchedas or chapters the work is named as *Prāyaścitta-prakaraṇam*, while in the sixth or last colophon it appears as *Prāyaścitta-prakaraṇa-nirūpaṇam*. The first chapter, for example, ends with इति सांधिविग्रहिक श्रीभवदेवकृतौ प्रायश्चित्तप्रकरणे वधपरिच्छेदः समाप्तः ॥ (fol. 18a) ; the fourth chapter with इति (श्री) बालवडभी- (वलभी in Ind. Off. MS.) भुजंगापरनाम्नो भट्टश्रीभवदेवकृतौ प्रायश्चित्त-प्रकरणेऽगम्यागमनपरिच्छेदः ॥ (fol. 40b).[1]

The title, *Bāla-valabhī-* (or *vaḍabhī-*)*bhujaṁga*, is given in all the colophons except the first (in the Sanskrit College copy omitted in the second colophon also). The MS. No. 240 of H. P. Shāstri has at the end a slightly different form, *Bāla-vaḍabhīya-bhujaṁga*. This peculiar title at once fixes the work as of our Bhavadeva.

The treatise discusses sins and the modes of their expiation (*prāyaścitta*). The first chapter deals with the great sins, the murder of men, women and animals. The second chapter treats of sins arising from the taking of forbidden foods and drinks ; the third deals with expiation for various kinds of thefts ; the fourth discusses expiations for sexual intercourse with forbidden persons. The fifth deals with expiations for improper contract, such as forbidden marriages, sale of forbidden goods, touch with the untouchables. The last chapter is devoted to the penances prescribed in expiation.

The work quotes from or refers to a considerable number of *smṛti* treatises. A list of the authorities thus mentioned is given below :—

1. The folio references are to the recent copy from the Sanskrit College MSS.

Aṅgirasa (variants, Aṅgirāḥ, Āṅgirasa, Āṅgirāḥ).
Āpaḥ (? Āpastamba).
Āpastamba (44 times).
Kaśyapa.
Kātyāyana.
Kaipāyana (? Kātyāyana).
Kumāra.
Gotama (var., Gautama).
Guṇama (? Gautama).
Chāgaleya.
Jaimini.
Devala.
Nārada.
Parāśara (var., Pārāśara)
Pulastya.
Paiṭhīnasi.
Pracetah.
Vṛhat-Pravecāh (var.? °Pracetaḥ).
Baudhāyana.
Bhaviṣyat-purāṇa.
Matsya-purāṇa.
Mārkaṇḍeya.
Manu (91 times).
Vṛhan-Manu.
Yama.
Vṛhad-Yama.
Svalpa-Yama.
Yajñavalkya (46 times).
Yogī-Yājñavalkya.
Laughākṣi.
Vāloka (5 times).
Viṣṇu.
Vṛhad-Viṣṇu (29 times).
Viśvāmitra.
Viśvarūpa (once).
Vṛhaspati.
Vṛhad-Vṛhaspati.
Vyāsa.
Vṛhad-Vyāsa.
Śaṅkha.
Śaṅkha-Likhita.
Śātātapa.
Vṛhad-Śātātapa.
Śrīkara (twice).
Śat-triṁśan-mata (4 times).
Saṁvarta.
Vṛhad-Saṁvarta.
Sumantu.
Hārita.
Vṛddha-Hārita.
Svalpa-Hārita.

It will be seen that the largest references are to Manu, Yājñavalkya, and Āpastamba. The other sages were also well known, and more than twenty-five have been named. Several were known under various recensions, such as Manu, Vṛhad-M° and so on. Among the Purāṇas the *Matsya* and the *Bhaviṣyat*, and as distinguished from the smṛti-writer the philosopher Yogī-Yājñavalkya, have been quoted. Of later productions one finds the compilation from thirty-six authorities, the *Ṣaṭ-triṁśan-mata*, and among later writers, Viśvarūpa, Vāloka and Śrīkara are referred to, though only occasionally. The late age of Vāloka and Śrīkara is indicated by the fact that their opinions have been freely criticised, e.g., in the fourth chapter, वालोकेन यदुक्तं तद्धेयमेव, यदपि वालोकेन लिखितं . . . . तदपि सर्वसंहिताखदृष्ट्वादिश्लोकश्लोक (fol. 326)—रादिभिश्चालिखितत्वाद्धेयमेव भवतु, again in the fifth chapter पक्षश्लोकरेण . . . . तदयुक्तं (fol. 42a).

The work appears to have been treated as an authority on expiations. For example, in the *Smṛti-ratn-ākara*, a work fairly old, the author Vedācārya begins the section on *prāyaścitta* thus:—

मन्वादिस्मृतिशास्त्रार्थैं भवदेवादि सम्मतं ।
प्रायश्चित्तमहं वक्ष्ये द्विजाय पापनिष्कृतौ ॥ [२ ॥]

So too in the *Prāyaścitta-saṁgraha* of Nārayaṇa Bhaṭṭa quotations from Bhavadeva appear as authoritative.[1]

[1] India Office Library *Catalogue*, pp. 473, 555.

(iv) *Sambandha-viveka.*

Under this title, a small manuscript of 12 folia, 250 verses, is attributed to our Bhavadeva in H. P. Shastri's "Notices," MS. No. 399.[1] It deals with sapiṇḍa relationship as bearing on marriage, and has at the end the following :— इति भवदेवभट्टकृतः सम्बन्धविवेकः समाप्तः ॥ In the absence of the writer's title, *Bāla-valabhī-bhujaṅga*, the authorship remains doubtful.

(v) *Other works.*

As regards other works of Bhavadeva, some information is available in a stone inscription of the temple of Ananta-Vāsudeva at Bhuvaneśvara town, District Puri, Orissa.[2] The inscription contains a *praśasti* or eulogy of the builder of the temple, Bhaṭṭa Bhavadeva, surnamed *Bāla-valabhī-bhujaṅga*. After giving a brief account of Bhavadeva's ancestors, the eulogy describes his attainments and productions as follows :—

Verse 20.—"An example of those knowing Brahmā's non-duality, a wonderful creator of high learning, a thinker directly perceiving the deep quality of Bhaṭṭa's words, the pitcher-born sage (Agastya) of the Bauddha sea, the skilful in refuting the cavilling tricks of the heretics, he plays in this world as an omniscient.

V. 21.—"Having seen the other shore of the sea of *Siddhānta*, *Tantra* and *Gaṇita*, producing world-wide wonder in *Phala-saṁhitās*, the maker and proclaimer of a new *Horā-śāstra*, he became manifest as another Varāha.

V. 22.—"In the paths of *Dharma-śāstra*, by composing good treatises he blended the old productions. By good glosses elucidating the *Dharma-gāthās* of sages, he wiped away doubt on points of legal acts.

V. 23.—"In *Mimāṁsās* he composed, following the sayings of Bhaṭṭa, a guide in which thousands of maxims, like sun's rays, do not endure darkness. What need to say more."

Bhavadeva's works on the Mimāṁsā, and on the Dharma-śāstra, at least on two sections of it, *saṁskāra* and *prāyaścitta*, we have already seen. But his works on *Horā-śāstra* or horoscopy, and on other branches of astronomical astrology, still remain to be discovered.

B.—His Temple.

The fame of Bhavadeva should rest as much on his temple as on his literary works. Consequently my article will be incomplete without a brief description of this structure.

1 Introduction to the "Notices," vol. I, p. x, and p. 401.

2 J.A.S.B., VI, p. 280 ff., l.c. in R. L. Mittra's *Antiquities of Orissa*, II, 84 ff; *Epigraphia Indica*, vi, 203 ff.

The temple of Ananta-Vāsudeva stands nearly in the centre of Bhuvaneśvara town, close to the great temple of Liṅgarāja, on the east bank of the tank Vindusāgara. It is enclosed by a laterite wall, 9 ft. high, which is pierced on the west side by a propylon-shaped gateway. The inscription already noticed is fixed in this west wall on the inside. The enclosure has an area, according to the latest survey, of ·303 acres.

Within this enclosure in the centre stands the main temple, with four side temples, one on each corner. The main temple occupies an area of ·082 acres, and consists of four parts :—

1. The tower.
2. The porch.
3. The dancing-hall.
4. The hall of offerings.

From the inscription one learns that Bhavadeva built a high wheel-crested temple, placed in its inner sanctum the images of Vāsudeva, Ananta and Nṛsiṁha, dug out in its front a pool (vāpī), and endowed it with a hundred damsels.

The pool no longer exists. It has been probably absorbed in the great tank of Vindu-sāgara. The height of the tower is said to be 60 ft., which is probably an under-estimate. Within the inner sanctum may still be seen the three images (not two, as Dr. Mitra says).

The porch has over its entrance the figures of Nava-graha or nine planets. This indicates that the dancing-hall in front of it did not originally exist. In fact this structure from its plain construction and from its making the interior very dark would appear to have been a subsequent addition.

The offering-hall is another plain structure, but whether it was co-existent with the tower or not can not be said definitely. The *bhogas* or offerings largely consist of boiled rice, pulses, curries, etc., and rank with similar offerings in the Liṅgarāja temple as *mahā-prasāds*, i.e. sanctified foods which all castes can take together.

The elaborate mouldings and carvings on the outside of the tower and the porch are worth seeing. They are splendid specimens of Orissan stone works. Specially remarkable are the elephants, the foliage, and the traceries on the porch. Words can not give any true idea of the original. I, therefore, add photographs of—

(1) A general view of the temple from the south-west ;
(2) The tower with its attached (*nisā*) small temple, from south-west ;
(3) Details of carvings and mouldings in the tower, north façade ;
(4) Details of carvings in the porch, south façade ;
(5) The inscription.

I also add a rough ground plan of the whole structure for facility of understanding the general plan.

The numerous temples of Orissa have yet to be studied scientifically. So far as I have been able to examine them during the last twenty-five years, these temples seem to fall under three groups. These groups, if named after a prominent specimen of each class, would be somewhat as follows :—

(i) The Paraśurāmeśvara group, chronologically the oldest, and architecturally very interesting. It includes, in Bhuvaneśvara town, the Paraśurāmeśvara, the Śiśireśvara, the Kapālini (miscalled Vaitāḷa Deuḷa), and possibly the Uttareśvara; at Mukhaliṅgam, District Ganjām, the Someśvara, and so on.

(ii) The Liṅgarāja group, numerous and architecturally the most important, including most of the Orissan temples. It includes, for example, in Bhuvaneśvara town, the Liṅgarāja and the Yameśvara; in Puri, the Jagannātha and the Mārkaṇḍeśvara; at Konārak, the Sun-temple, and so on.

(iii) The Brahmeśvara group, found almost exclusively in Bhuvaneśvara town, differing from the Liṅgarāja type only in some details and general plans. It includes the Brahmeśvara, the Siddheśvara, the Kedāreśvara, and probably the Rājarāṇi Deuḷa.

Architecturally, the Ananta-Vāsudeva falls in the second group. Both in the general plan, and in its mouldings and carvings, it is a close imitation of the Liṅgarāja, one might say, a smaller edition thereof. Unlike most temples in Bhuvaneśvara, it faces, however, the west (and not the east); and it is the only temple in that town dedicated to Vāsudeva and not to Śiva.[1]

C.—His Ancestors.

The inscription has luckily preserved for us a list of Bhavadeva's ancestors up to the seventh generation. This list is shown on the following page in the form of a genealogical chart.

[1] The District Gazetteer of Puri, pp. 54, 241.

In the family of Sāvarṇa-muni, residents of the village Siddhala in the tract of Rāḍhā.

- Mahādeva.
- 1. Bhavadeva, owner of Śāsana Hastinibhiṭṭa, the gift of a Gauḍa king.
- Aṭṭahāsa.

1. Bhavadeva, owner of Śāsana Hastinibhiṭṭa, the gift of a Gauḍa king.
   - 2. Rathāṅga.
     - 3. Atyaṇga.
       - 4. Budha, surnamed Sphurita.
         - 5. Śrī-Ādideva = Sarasvatī. prime minister to a Vaṇga king.
           - 6. Govardhana = Saṅgoka, daughter of a Vandyaghaṭiya Brāhmaṇa.
             - 7. Bhavadeva, surnamed Bālavalabhībhujanga, minister of the king Harivarmmadeva and his son.[1]
   - Seven other sons.

The chart covering a period of about 150 years presents several interesting features. Socially Bhavadeva belonged to the Sāvarṇa family of Rāḍhīya Brāhmaṇas, an influential family still represented by the Sāvarṇa Chaudhris. Bhavadeva's mother came from the Vandyaghaṭiyas, at present one of the three Kulin families of the Rāḍhīyas, surnamed Bandyopādhyāya or colloquially Banerjeas (Bārujye). The name of the maternal grandfather is not given. I suspect he was a man of little position. But the mention of his social status indicates that even at that early age the Vandyaghaṭiyas occupied a high status in the social precedence. In fact the existence of the Sāvarṇas and the Vandyaghaṭiyas in this inscription of the eleventh century throws doubts on the stories found in the accounts of the match-makers that the Rāḍhīya Brāhmaṇs were imported from Kanauj in the eleventh century.

The inscription mentions the three geographical divisions of old Bengal, Gauḍa, Rāḍhā and Vaṅga. Presumably each had its own separate king. The village Siddhala, the beauty of Rāḍhā, and the granted village of Hastinibhiṭṭa are untraceable. According to some Siddhala lies in the Kālnā subdivision of Burdwān district. It is very curious that the inscription makes no mention of Bhuvaneśvara town where the

[1] Called *Sāndhi-Vigrahika* or foreign minister in the colophon of the first chapter of the *Prāyaścitta-nirūpaṇam* (fol. 18a).

temple was erected, or of the tract within which Bhuvaneśvara lay, or of the king of this tract.

The inscription shows that the ancestors of Bhavadeva were learned paṇḍits, though some of them took part also in political life. Bhavadeva himself, though minister of two kings, was a scholar of wide reading. The inscription is thus valuable in one respect. It reveals that in Rāḍhā, i.e. the tract west of the Bhāgīrathī river, study of Sanskrit astrology, philosophy and rituals was in fair swing in the tenth and the eleventh century A.D. This is confirmed by the *Nyāya-kandalī*, another survival of the period. Its author Śridharācārya has given an account of himself at the end of the work. He was a resident of Bhuriśriṣṭi in south Rāḍhā, which cannot but be the modern Bhursut on the right bank of the Dāmodar river in Howrah District. He composed his famous work on the Vaiśeṣika system in the Śaka year 913 or A.D. 991-2.[1] Such scholars as Śrīdharācārya and Bhavadeva could not have been accidental growths, but must have been the products of an age when and of a tract where general learning had been raised to a fairly high level. If this surmise be correct, then it is another argument against the rather silly stories that in the eleventh century the king Adiśūra had to import Brāhmaṇs from Kanauj because he could not find learned men in Bengal.

This section I conclude by drawing attention to the peculiar title of Bhavadeva, *Bāla-valabhī-bhujaṅga*. *Valabhī*, the word found in some of the MSS., must be correct as it appears in the contemporaneous inscription. *Vaḍabhī* is not exactly incorrect, for I think it represents the correct pronunciation in the vernacular, and in Prākrit *ḍ* changes to *ḷ* and *ṛ* and vice versâ. But *Vaḍabhīya* in H. P. Shāstri's MS. No. 240 is found in no other MSS. and goes against the inscription. I suspect it is a clerical mistake, probably arising from the idea that *Vaḍabhīya* should be derived from some *gāin* (village) or family name. Such surnames were not uncommon in later Smṛti writers of Bengal, e.g. *Campāhiṭṭi* or °*hiṭṭiya* of Aniruddha Bhaṭṭa, *Kāñjivilliya* of Kubera, Nārāyaṇa or Bhīma, *Sāhuḍiyān* of Śulapāṇi. *Pāribhadriya* of Jimūtavāhana. But I think the epithet *Bālabalabhībhujaṅga* is not derived from the family, but is a personal title of Bhavadeva, like the title *Sphurita* of his great-grandfather Budha. Being a personal

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[1] आसीद्दक्षिणराढायां द्विजानां भूरिकर्मणाम्।
भूरिसृष्टिरितिग्रामो भूरिश्रेष्ठिजनाश्रयः॥
अधिकदशोत्तरनवशतशाकाब्दे न्यायकन्दली रचिता।
श्रीपाण्डुदासबाधितभट्टश्रीधरेणेयम्॥ *Ny. Kan.*, pr. ed., pp. 330-1.

title it is not now capable of explanation, the literal meaning being "a young serpent of the tutret."

D.—His Date.

The inscription, being contemporaneous, could have easily settled the time in which he lived, but unfortunately it is not dated. At present there are two suggestions in the field. The first is of Dr. R. L. Mittra. He identifies Vācaspati, the composer of the *praśasti* and the friend of Bhavadeva, with "Vācaspati Miśra, a distinguished paṇdit, author of many original works and commentaries. The date of Vācaspati is well known: it was about the close of the eleventh century."[1] This reasoning is wrong. The name Vācaspati is not uncommon, and nothing in the inscription justifies the identification of the composer of the eulogy with the distinguished philosopher Vācaspati Miśra. Furthermore the philosopher did not flourish in the eleventh century but in the tenth. He composed his *Nyāya-sūcī-nibandha*, a gloss on *Nyāya-vārtika-tātparya* (Mimāṁsā), in the year Vasu (8), Aṅka (9), Vasu (8), which must be Śaka, and therefore equal to A.D. 976.[2]

The second suggestion is of Professor Kielhorn: "On palaeographical grounds the Professor does not hesitate to assign this record, like the preceding one, to about A.D. 1200."[3] This emphatic assertion on the part of such an experienced epigraphist must carry weight. Unfortunately the timing of records from epigraphical characters alone is at present a chase of the will o' wisp. The epigraphical changes of the characters used in East India have not yet been carefully studied; and where studied, the mediaeval characters have been found to change so much according to time and locality, that it would be rash to assign any positive date to a record based merely on such characters. In fact these characters have been found to range within the wide limits of one or more centuries, and can be taken rather to represent an age than a specific decade.

Not getting the requisite help from the inscription, one has to fall back upon the literary records. The first great step from this side lies in the fact that Bhavadeva is referred to in the *Karm-opadeśinī-paddhati* of Aniruddha Bhaṭṭa.[4] Ac-

[1] The *Antiquities of Orissa*, vol. ii, pp. 84-85.

[2] The *Nyāya-sūcī-nibandha* ends with (printed ed., p. 26):—

न्यायसूचीनिबन्धो सावकारि सुधियां मुदे ।
श्रीवाचस्पतिमिश्रेण वसङ्कवसुवत्सरे ॥

[3] *Epig. Ind.*, vi, p. 205. A photo-block of the inscription is given in plate xix.

[4] India Office Library *Catalogue*, p. 475 (MS. 1553), "Bhavadeva-bhaṭṭa (Nirṇayāmṛite), folio 84a."

cording to its colophons, this Aniruddha is of *Cāmpāhiṭī* (चाम्पाहिटीयमहोपाध्यायश्रीअनिरुद्धविरचितं, folios 67b and 82b). He must therefore be identical with Aniruddha, the author of the *Hāra-latā* which has a similar colophon at the end (चाम्पाहट्टीय-महोपाध्यायधर्माध्यक्षश्रीमदनिरुद्धविरचिता). This author is evidently the same Aniruddha who was the *guru* or spiritual teacher of the king Ballālasenadeva and whose help the king acknowledged in the introduction to his *Dāna-sāgara* (verses 6 and 7).

As *guru*, Aniruddha was probably older than the king. The inscriptions of the Sena kings, being in regnal years, give little help in ascertaining their times. But we get valuable help from the literary records of Ballālasenadeva. This king, with the help of Aniruddha and other paṇḍits, compiled a series of Smṛti works ending in *Sāgara*, such as *Pratiṣṭha-sāgara*, *Ācāra-sāgara*, *Dāna-sāgara*,[1] and the *Adbhuta-sāgara*. In the introduction to the last work it is said that the Gauḍa king began the *Adbhuta-sāgara* in Śaka *kha* (0), *nava* (9), *kha* (0) and *indu* (1) or 1090 (A.D. 1168). But leaving it unfinished he made over the empire to his son and died on the bank of the Ganges. The king Lakṣmaṇasena then completed the work of the monarch Ballālaṣena.[2]

With the above may be considered the colophon at the end of the *Dāna-sāgara* MS. in the India Office Library (Nos. 1704 and 1705). It runs thus :—निखिलभूपचक्रतिलक श्रीमद्बल्लाल-

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1 The introductory verses 54 to 56 of the *Dāna-sāgara*.

2 शाके खनवखेंदुब्दे व्यारेभेऽद्भुतसागरं
गौडेन्द्रकुञ्जरालानस्तम्भवाऽर्मंहीपतिः ।
ग्रन्थेऽस्मिन्नसमाप्त एव तनयं सामाद्यरत्नामहा-
दीक्षापर्वणि दीक्षणान्निजकृतेर्निष्पत्तिमभ्यर्थ सः ॥
गागादानचिन्ताम्बुसङ्गजनतः सूर्यात्मजासङ्गमं
गङ्गायां विरचय्य निर्जरपुरं भार्य्यानुयातो गतः ।
श्रीमल्लक्ष्मणसेनभूपतिरतिश्लाघ्यो यदुद्योगतो
निष्पन्नोऽद्भुतसागरः कृतिरसौ बल्लालभूमिभुजः ॥

See the two Deccan College MSS. of the *Adbhuta-sāgara*, Nos. 801 of 1884–7, and 231 of 1889–91. The India Govt. MS. in the As. Soc. Ben. Library gives only the last verse.

सेनदेवेन पूर्वं शशिनवदशमिते १०९१ शकवर्षे दानसागरो रचितः ।

i.e., the *Dāna-sāgara* was composed in the Śaka year 1091 or A.D. 1169. In the *Samaya-prakāśa* a somewhat similar verse appears :—

निखिलनृपचक्रतिलकश्रीमद्बल्लालसेनदेवेन ।
पूर्णे शशिनवदशमिते दानसागरो रचितः ।[1]

Furthermore in the *Adbhuta-sāgara* itself we find mention of the Śaka years 1082 and 1090. Thus in the section on the portents of the stars *sapt-arṣi* (seven sages) भुजवसुदश १०८२ मित शाके श्रीमद्बल्लालसेनराज्याद्येवर्षैकषष्ठिमुनिर्विनिश्चितो विशेषाया (Ind. Govt. MS., fol. 52b), *bhuja* (2), *vaśu* (8), *daśa* (10), 1082 Śaka (A.D. 1160) in the beginning of the reign of Ballālasena. Again in the section on the portents of the planet Vṛhaspati appears a reference to Śaka 1090, अथाद्भुतसागरेऽङ्गिरसकोष्ठे सप्तयुगगणेनादेश । १०९० न शकाष्टाषड्गुणितात् (fol. 28b).

All these references make it fairly clear that Ballālasena-deva was living in Śaka 1090 and 1091 (A.D. 1169). The time of his spiritual teacher, therefore, falls in the third quarter of the twelfth century (1150–1169). He could not have flourished much earlier than this, for in his *Karm-opadeśini-paddhati*, he refers as an authority to the *Kalpa-taru*,—इति कल्पतरुकामधेन्वादिसंग्रहाकरे महोपाध्यायेन विरचिते सुद्धिप्रकरणेऽन्त्येष्टिविधिः ।[2] *Kalpa-taru* is an abbreviation of the famous *Kṛtya-kalpataru*, a compilation (*saṁgraha*) of civil and religious law, by Lakṣmidhara Bhaṭṭa, the foreign minister to Mahārājā Govindacandradeva of Kanauj. Of this king we

[1] *Gauḍe Brāhmaṇa*, by Mahimācandra Mazumdar, p. 72.

[2] India Office Library *Catalogue*, p. 475 (MS., folio 114b). Śūlapāni in his *Śrāddha-viveka* quotes *Kalpa-taru*, e.g.,

विलोक्य धर्मशास्त्राणि कामधेन्वादिसंग्रहान् ।
विवेकः पार्वणादीनां क्रियते शूलपाणिना ॥
अथ श्राद्धलक्षणं ॥ तत्र कल्पतरुः ॥

Therefore Śūlapani must be later than the first half of the twelfth century A.D.

have got numerous inscriptions ranging from A.D. 1104 to 1154.[1] Hence the time of *Kalpa-taru* falls in the first half of the twelfth century; and reference to it as a standard compilation places Aniruddha about the middle of the same century.

Bhavadeva having been referred to as an authority by Aniruddha should be earlier than him, i e. earlier than A.D. 1150. Bhavadeva's anterior limit is fixed by his reference to Viśvarūpa in the *Prāyaścitta-nirūpaṇam*. This smṛti-writer is believed to be later than Bhoja the king of Dhārā,[2] and of Bhoja an inscription from Dhārā exists, dated Saṁvat 1078, or 24th December, A.D. 1021.[3] Consequently Viśvarūpa can not be older than the first quarter of the eleventh century. Bhavadeva should be still later. His time thus falls between the two limits, A.D. 1025–1150.

The data in hand do not permit of a more precise date. But the following facts help in coming to a somewhat narrower limit of time.

Firstly, the shrine of Ananta-Vāsudeva is considered very sacred, next in sanctity to the great temple only. These two temples only can give the *Mahāprasāda* offerings, whose sacredness leaps over the great barriers of castes. The god is mentioned also in that fairly old Purāṇa, the *Śiva-purāṇa*, where it is distinctly laid down that the pilgrim after bathing in the Vindu-sāgara tank should pay his respects first to Puruṣottama (in this temple) and then to other deities including Bhuvaneśvara of the great temple.[4] This injunction makes the sanctity of Ananta-Vāsudeva very clear. The great veneration for the god with his mention in such a fairly old work as the *Śiva-purāṇa*, indicates that the shrine must be one of the oldest in the town, nearer to A.D. 1025 than to 1150.

Secondly, in the drama *Prabodha-candr-odaya*, Canto II, Kṛṣṇa Miśra has caricatured the Bengal philosophers under the allegorical *Ahaṇkāra* or Pride. Of the verses put in the mouth of Ahaṇkāra, one begins with "Gauḍa kingdom is the best; in that the town of Rāḍhā is above all comparison; the residence Bhuriśreṣṭhaka is excellent; there my father is best." This is a clear hit at Śrīdharācārya whose home was Bhuriśreṣṭha in south Rāḍhā (see p. 341, *supra*). Another passage, however, may be a covert attack on some other Bengal man. It runs thus:—

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[1] For the inscription of Govindacandra, 10th August 1154, see *Ep. Ind.*, iv, p. 116.

[2] *Catalogos Catalogorum*, vol. ii, p. 58.

[3] *Ind. Ant.*, vol. vi, p. 53.

[4] तस्मादिन्दुह्रदे स्नात्वा द्रष्टव्य पुरुषोत्तमः ।
देवीपापहरा चैव द्रष्टव्य सावधानतः ॥ *Śiva-purāṇa*, Bk. II.

"Ahaṇkāra (entering) Aho! The world has mostly fools—Because

"Aho! the doctrines of the guru (Prabhākara) are not heard; the philosophy of the *Tautātita* (Kumārila Bhatta) is not known; not known also the truths in the views of *Sārika* (a work said to be of Prabhākara), not to speak those of Vācaspati (Miśra). The maxims of the *Mahodadhi* (Mimāṁsā work) are not understood, and those of the *Mahāvratī* (another Mimāṁsā work) not studied. The finding out of the Brahma is very subtle How do these human-beasts remain then in peace?"[1]

This general allusion to Mimāṁsā philosophy and the special allusion to *Tautātita* seem to be not improbably an allusion to that learned work of Bhavadeva, his *Tautātita-matatilakam*. The commentator Nāṇḍillagopa in his gloss *Candrikā* mentions under this passage Bhavadeva in connection with the *Māhāvratī*.[2] Nāṇḍillagopa was a contemporary of the king Kṛṣṇa Rāya and therefore flourished in the beginning of the sixteenth century.

If the allusion be really to Bhavadeva, as is not unlikely, then he must be older than the drama. The drama was composed in the reign of the Chandella king Kīrttivarman after his conquest of the Cedī king Karṇa. One inscription of the king Kīrttivarman has been found bearing the date 7th March, A.D. 1098.[3] The time of the drama, therefore, falls in the fourth quarter of the eleventh century, and Bhavadeva's time would be somewhat earlier than this.

Thirdly, in the poem *Bhakti-Bhāgavata-mahā-kāvyam*, the author Jivadevācārya gives at the end a brief history of Orissa kings. In this account it is said:—"Among them (the *vatsa Brāhmaṇas*) famous, one named Bhavadeva became the spiritual teacher of the king Udyota-keśarī, who got consecrated by

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[1] अहंकारः – अहो मूर्खबहुलं जगत् । तथाहि –
नैवाश्रावि गुरोर्मतं न विदितं तौतातितं दर्शनं
तत्त्वं ज्ञातमहो ना प्राभिकगिरां वाचस्पतेः का कथा ।
सूक्तं नाऽपि महोदधेरधिगतं माहाव्रती नेक्षिता
सूक्ष्मा वस्तुविचारणा नृपशुभि खस्थैः कथं स्थीयते ॥

[2] भवदेवबटुवनाथवत् प्राभिकनाथमतानुवर्त्तौ महोदधिः प्राभिकनाथप्रतिस्पर्धी इदानीमाचार्य्यमते भवदेवमतस्य गुरुमते भवनाथमतस्यैव प्राचुर्यमिति ग्रन्थकारैरनुल्लिखितमपि मतद्वयमस्माभिरुक्तम् ।

Nir. Sāg. Press ed., p. 53.

[3] *Ind. Ant.*, xviii, p. 238.

him the skilful, the Bāṇa phallus named Someśvara, worshipped by all kings.''[1]

Jīvadevācārya composed the poem in the seventeenth year of the king Pratāparudradeva, or about A.D. 1512-3, before which time must have been current this tradition connecting Bhavadeva with Udyota-keśarī. Udyota-keśarī's date is as yet uncertain. But he must be older than Coṛaganga who conquered Orissa probably in the first decade of his reign (A.D. 1076–86),[2] and founded the Gaṅga rule in Orissa. As Udyota-keśarī from his inscriptions appears to have been himself a powerful ruler, he evidently preceded Coṛagaṅga by many years. According to this tradition, therefore, Bhavadeva's time falls in the eleventh century, possibly in its first half. It would not be safe, however, to put much value on traditions reported several centuries after.

On the whole it would be reasonable to conclude that Bhavadeva flourished in the eleventh century, and that he erected the Ananta-Vāsudeva temple before the advent of the Gaṅgas. The data available, though very scanty, also indicates that in that period Rāḍhā was the centre of considerable literary activity, specially in rituals and philosophy. Śrīdhara in the tenth and Bhavadeva in the eleventh are two scholars, of whom Rāḍhā and for that matter any province in India may well be proud. Yet they are only solitary rocks which tower above the sea of oblivion on account of special circumstances, while the other learned men crowding round them have been engulphed in the floods of time.

Remarks on the foregoing paper by Mahāmahopādhyāya Haraprasād Śāstrī.

The writer discredits the accounts of the match-makers that the Rāḍhīya Brāhmaṇas were imported from Kanouj in the 11th century A.D. He also finds another argument against the " rather silly stories, that the king Ādiśūra had to import learned Brāhmaṇas from Kanouj because he could not find learned Brāhmaṇas in Bengal in the 11th century.''

Thirty years ago the theory was that the Brāhmaṇas were brought to Bengal by Ādiśura either in 999 Samvat, that is, 943 A.D., or in Vedavāṇāṅkaśāke, that is, 954 Śaka or 1032 A.D. But since then careful study of old manuscripts of earlier

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[1] उद्योतकेशरीन्द्रपस्य गुरुर्बभूव तेषु प्रसिद्धमहिमा भवदेवनामा ।
सोमेश्वर नृपकुलस्य समर्चनीयो वाणः स तेन क्षतिनैव
क्षतप्रतिष्ठः ॥ ६ ॥

[2] J.A.S.B., 1898, p. 329.

genealogists has given more correct information on the subject. Hari Misra was a contemporary of Danaujā Mādhava who again was a contemporary of Ghaiasuddin Bulban (1266—1286 A.D.). Danaujā was the Rāya of Soṇargā with whom Bulban made a treaty when he pursued the rebellious Governor of Bengal, Tughril Khan. Hari Miśra says that the Pālas got ascendancy in Bengal shortly after the coming of the five Brāhmaṇas, and it is now very nearly settled that they became rulers of Bengal between A.D. 760 and 770. So Ādiśūra brought the Brāhmaṇas not in the 11th century but in the 8th. The bringing of Brāhmaṇas in Bengal was not a single and isolated fact of Brahminising an Indian province. It was in fact one of the results of the Pan-Indian Brahminic movement set on foot by Kumārila a generation earlier; for Bhavabhuti, the court poet of Yasovarina Deva, who sent Brāhmanas to Bengal, was a disciple of Kumarila. So the story of Ādiśūra's bringing the Brāhmaṇas from Kanouj was neither silly nor invented by match-makers. In the 11th century the descendants of the five Brāhmanas were already divided into Rāḍhīyas and Vārendras and had received at least 156 villages from which the modern Raḍhīyas and Vārendras derive their names. In Ballala's time a census of these Brāhmaṇas resident within his dominions was taken and they numbered 800 families.

The evidence of the Bhakti Bhāgavata Mahākāvya by Jīvadevācārya, first noticed by me in my Report on the search of Sanskrit manuscripts for the years 1901—1906, is besides Babu Manomohana Cakravartī's purpose, because Bhavadeva mentioned therein belonged to the Vātsa Gotra and was a Uḍiyā Brāhmaṇa, while Bhavadeva the author, the temple-builder and the minister to Harivarmā, belonged to Sāvarṇa Gotra and was a Rāḍhīya Brāhmaṇa. They cannot at all be one and the same person.

33. The Bakhshāli Manuscript.

By G. R. Kaye.

The Bakhshāli manuscript was found in 1881 near a village called Bakhshāli in the Peshawar district. The manuscript is written in Sārada characters on leaves of birch-bark, and is in an extremely mutilated condition. The subject is arithmetic, but the name of the author and the title of the work are not known.

We are indebted to Dr. Hoernle for the knowledge we now possess of this interesting manuscript. In 1888 he published [1] facsimiles of several of the leaves together with the text and a translation of all that is preserved. We are deeply indebted to Dr. Hoernle for his scholarly labours, and our appreciation must not be considered any the less because we criticize freely certain of his arguments and conclusions.

The date of the composition of the work has been variously set down as the third century and the twelfth century A.D., but whatever its actual date may be, it is certainly the earliest Hindu mathematical manuscript extant and as such is of unique interest. If Dr. Hoernle's conjectures as to the date of composition of this work were correct the evidence it contains would be of incalculable value, but in all probability his conclusious are wrong and a re-examination of the facts will lead to very different results. It is, therefore, proposed to scrutinize Dr. Hoernle's arguments and to examine the manuscript itself and to attempt to determine its historical value.

II.

Dr. Hoernle rather confuses the two questions of the date of the composition of the work and the age of the manuscript. As to the former he says: "I am disposed to believe that the composition must be referred to the earliest centuries of our era, and that it may date from the third or fourth century A.D."

The reasons he gives for this conclusion are—

(*a*) The work is in the *Sloka* measure which he says dropped out of fashion about the end of the fifth century.

(*b*) "It is written in what used to be called the Gāthā dialect, but which is rather the literary form of the ancient north-western Prākṛit (or Pāli). It exhibits a strange

[1] *Indian Antiquary*, 1888, p. 83f and p. 275f. See also vol. xii. p. 89f., and *Verhandlungen des VII Internationalen Orientalisten-Congresses, Arische Section*. Vienna, 1888, p. 127.

mixture of what we should now call Sanskrit and Prakrit forms..... It appears to have been in general use, in north-western India, for literary purposes, till about the end of the third century A.D.''

(*c*) The two words *dīnāra* and *dramma* occur. ''This circumstance,'' he says, ''again points to some time within the first three centuries of the Christian era.''

(*d*) The peculiar sign of the cross (+) as the sign of negative quantity is also ''indicative of antiquity.''

(*e*) In one of the problems the year is reckoned as 360 days.

(*f*) '' Indian arithmetic and algebra, at least,'' he assumes, '' are of entirely native origin.''

(*g*) '' It is certain,'' he says, '' that this principle (notation with place value) was known in India as early as 500 A.D. There is no good reason why it should not have been discovered there considerably earlier.''

'' Regarding the age of the manuscript I am unable,'' says Dr. Hoernle, '' to offer a very definite opinion..... In any case it cannot be well placed later than the tenth century A.D. It is quite possible that it is somewhat older.'' His reasons for coming to this conclusion are—

(*h*) The composition of a Hindu work on arithmetic seems to presuppose a country and a period in which Hindu civilization and Brahmanical learning flourished.

(*i*) The country in which Bakhshāli lies '' was lost to Hindu civilization ..... towards the end of the tenth and the beginning of the eleventh centuries A.D.''

(*j*) '' In those troublous times it was a common practice for the learned Hindus to bury their manuscript treasures.''

III.

Although we are not convinced by Dr. Hoernle's paralogistic arguments, yet it is necessary to examine them in some detail before we actually commence our own investigation. We cannot accept the view that the language used is of an earlier period than the manuscript itself, and we accept practically none of the assumptions he makes.

Dealing with his arguments in the order in which they are given above the following criticisms are offered :—

(*a*) The work is written in the Śloka measure and, therefore, it is argued must have been composed before A.D. 500. We can, however, point to a number of Śārada inscriptions of the period from the tenth century onwards in which the Śloka measure occurs, e.g the Brahmor inscription of Yugākara Varman [1]; the Sungal copper-plate grant [2]; the inscription of

[1] Vogel's *Antiquities of Chamba State*, p. 161. [2] ib., p. 166.

Soma-varma and Āsata [1]; the Mūl-kihār fountain inscription [2]; the Sai fountain inscription,[3] etc.

(*b*) It is written in a mixture of Prākṛit and Sanskrit and in the Gāthā dialect whose "literary form consisted in what may be called an imperfect Sankritization of the vernacular Prākṛit. Hence it exhibits at every turn the peculiar characteristics of the underlying vernacular, etc." Hoernle gives examples of many of these peculiarities which occur in the Bakhshāli manuscript. Almost every peculiarity he cites has been found in Śāradā inscriptions of the tenth and later centuries. *e.g.* the Ṭhundhu copper plate inscription [4] contains many of the same peculiarities—incorrect *Saṁdhi*, interchange of sibilants, etc.; in the Brahmor copper-plate inscription of Yugākara Varman already referred to are trespasses against *Saṁdhi* rules, final consonants are omitted, *śa* is substituted for *sa*, *ṇa* and *na* are confused exactly as in the Bakhshāli manuscript; the copper-plate inscription of Vidagdha [5] likewise contains a number of Sanskritized vernacular terms, it confuses *n* and *ṇ*, interchanges sibilants, etc.; the Kalait copper-plate inscription of Soma-varman [6] puts *ri* for *ṛi*, interchanges sibilants, breaks *saṁdhi* rules, etc.; and the inscription of Soma-varman and Āsaṭa [7] and the Luj fountain inscription of A.D. 1105–6 contain similar irregularities.

(*c*) Hoernle refers to the use of the words *dīnāra* and *dramma* as evidence of an age of composition when Greek influence was still in force and argues from their use that the work must have been composed "within the first three centuries of the Christian era." The same argument would place Bhāskara's works (which were actually written in the twelfth century) in the same period, for he frequently uses the term *dramma* [8] in the same way as it is used in the Bakhshāli work, and Mahāvīra (who wrote in the ninth century) also frequently uses [9] the term *dīnāra*. The term *dramma* also occurs in the Syadoni inscription [10] (eleventh century), and is supposed to occur in the Luj fountain inscription [11] of Chamba state which is dated A.D. 1105. The occurrence of the word *dīnāra* has also been used as an argument [12] in determining the date of the *Harivaṁśa*; also because the term does not occur in the *Mahābhārata*, it has been argued that that work was composed before the introduction of the *denarius* into India. Mr. B. C. Mazumdar quotes an interesting passage from the *Daśakumāracarita*, in which the term *soḍaśa sahasrāṇi dināraṇam* occurs.

1 ib., p. 192. 2 ib., p. 228. 3 ib., p. 236. 4 ib., p. 197.
5 ib., p. 165. 6 ib., p. 182. 7 ib., p. 187.
8 *Līlāvati*, §§ 72, 79; *Vījaganita*, § 115, etc.
9 i, 43; vi, 81½; 106½, etc.
10 *Epigraphia Indica*, i, 167.
11 Vogel, p. 204
12 J.R.A.S., 1907, pp. 408 and 681.

Both terms were frequently used by the Arabs in the middle ages[1] and are given in most Arabic and Persian dictionaries.[2] We read in *Elliot's History*[3] that in Sind 'Abdu-l-Malik adopted an Arab currency in supersession of the Greek and Persian money, although the old denominations of *denarius* and *drachma* were still retained.

(*d*) He next refers to the minus sign + as evidence of great antiquity. By an obvious straining he connects this sign with the Brahmi *ka*. That a similar sign was used by Diophantus, he knew, but dismissed the fact as of no consequence.

(*e*) He next refers to the use of a year of 360 days in one of the problems as further evidence of very great antiquity; but obviously was not aware that the usage was quite common in mediæval India. Mahāvīra and Śridhara actually give 1 year = 360 days in their tables of measures, and the latter adds the remark—"Time is calculated according to this rule in all mathematical works." Chaturveda has recorded in an actual example the same measure for the year.[4]

(*f*) Dr. Hoernle *assumes* that Hindu arithmetic and algebra "are of entirely native origin." Of course, the assumption is not substantiated by the facts as now known.

(*g*) He goes on to say that the modern place-value arithmetical notation was known in India as early as A.D. 500, and that there was no good reason why it should not have been discovered considerably earlier. Of course, these two points (*f*) and (*g*) are not arguments for great antiquity, but the writer evidently felt how awkward it would be for his other arguments if it were proved, or even assumed, that the modern notation was not known in India until well into the Middle Ages!

(*h*) A certain amount of Hindu civilization is certainly connoted by the production of a work on arithmetic; but surely all Hindu learning did not cease with the Muhammadan invasion! The Muhammadans themselves of the tenth and eleventh centuries were many of them most capable mathematicians.

(*i*) That the country in which Bakhshāli lies was lost to the Hindus about the time when the manuscript was written, only indicates the possibility of Muhammadan influence in the composition of the work.

(*j*) The custom of burying manuscripts is not established as an *Indian* custom!

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[1] See Suter's *Das Buch der Seltenheit*, etc., Bibliotheca Mathematica, 1910-11, p. 114.

[2] See also Prinsep's *Essays on Indian Antiquities* (edited by E. Thomas), i, 246, etc.

[3] Vol. viii, p. 461.

[4] Colebrooke, *Algebra with Arithmetic and Mensuration from the Sanskrit*, etc., p. 185.

IV.

Having indicated that Dr. Hoernle's arguments are not altogether convincing, it remains to examine from our own standpoint the manuscript itself.

When Dr. Hoernle edited the Bakhshāli MS. the great authority on epigraphy was Bühler, who wrote[1]: "The oldest known Śāradā inscription are the two Baijnāth Prasāstis from Kiragrāma (Kāṅgrā), dated A.D. 804 . . . . and it is not improbable that the Bakhshāli manuscript, found in the Yūsufzai district, belongs to the same or even a somewhat earlier period." It has, however, since been shown that the date of the Baijnāth Prasāstis is A.D. 1204!

This was proved by Kielhorn,[2] and Dr. Vogel states that independently of Professor Kielhorn's researches a close examination of the inscription has led him to the same conclusion.[3] Dr. Vogel also points out that Hoernle was wrong in stating that the Śāradā alphabet was elaborated about A.D. 500. "The earliest dated documents," he tells us, "in which Śāradā appears are the coins of the Ulpala (or Varman) dynasty of Kashmir which start from the middle of the ninth century . . . The earliest Śāradā inscriptions of Chambā, which can be approximately dated, are the copper-plate grants of Yugākara and Vidagdha, the immediate successors of Sāhilla, who may be placed in the tenth century."[4]

There are thus very clear indications that a re-examination of the Bakhshāli manuscript is required before the conclusions of Dr. Hoernle or Professor Bühler can be accepted. We have now material for comparison that was not available formerly, viz., Dr. Vogel's account, already referred to, of Śāradā inscriptions found in Chambā. Utilizing the criteria given by Dr. Vogel, we have fairly certain indications of the age of the manuscript. These criteria individually, however, are not infallible and there are some difficulties in determining the age peculiar to the Śāradā script. Nevertheless, the evidence is sufficiently clear to enable us to arrive at a fairly accurate result.

V.

The Bakhshāli manuscript is written on birch bark. This material was used in early times, but few of the extant birch-bark manuscripts are earlier than the fifteenth century.[5] It

[1] *Indian Palæography*, p. 57.
[2] *Indian Antiquary* xx (1891), 154. There is a correlated point of great interest for these plates were quoted as containing some of the earliest examples of the modern place-value arithmetical notation.
[3] *Antiquities of Chambā State*, p. 43.
[4] ib., p. 46.
[5] Bühler, *Ind. Pal.*, p. 93

appears that in very early days all Indian birch-bark manuscripts were shaped like the Indian palm-leaf Pōthī, e.g., the Bower manuscript. "At a much later period, probably after the advent of Islam and its western culture, the fashion arose, within the birch-bark area of Northern India, to use birch-bark in imitation of paper, and to give to birch-bark books the shape of the paper books of the West."[1] The leaves of the Bakhshāli manuscript must have been originally about 7 by 8½ inches. They, therefore, are of the later fashion and the manuscript was written "probably after the advent of Islam."

The accompanying table compares certain elements of the Bakhshāli manuscript with inscriptions of different periods, viz., the Sarāhan stone inscription,[2] the Devirikothī inscription of A.D. 1159,[3] the Arigom inscription of A.D. 1197,[4] the Baijnath inscriptions of A.D. 1204[5] and the copper-plate grant of Bahādur Singh of Kaṭṭu,[6] A.D. 1559.

With the aid of this table and Dr. Vogel's criteria we may attempt to determine the age of the manuscript, bearing in mind that the materials used vary from birch-bark to stone and copper-plates.

According to Vogel the following points help to determine the age :—

(*a*) The loop of the *ka* is generally more rounded in older inscriptions.

(*b*) The *ca* in the earlier inscriptions is still rounded with a pointed projection to the left.

(*c*) In the earlier Śārada inscriptions the *ṇa* has still the remnant of a base stroke. In the later it is provided with a long tail attached to the left.

(*d*) In the earlier inscriptions *dha* is still crescent-shaped.

(*e*) In the Muhammadan period *ya* develops a top stroke.

(*f*) In the earlier Śārada inscriptions the *la* has the curve attached to the vertical by a small horizontal stroke.

(*g*) In the earlier inscriptions the *virāma* appears to modify the form.

(*h*) With certain *akṣaras* the old fashion, which appears to have dropped out about A.D. 1000, was to join the vowel mark for medial *ā* to the left-hand top vertical.

(*i*) The changes of *jā* are illustrated in the table.

(*j*) Medial *e* is expressed in three ways, of which the detached top stroke appears to be the most modern.

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[1] D. Hoernle, *Introduction to the Bower Manuscript*, p. xviii.
[2] Vogel, p. 152.
[3] Vogel, p. 206.
[4] Epigraphia Indica, ix.
[5] Bühler's Indische Palæographie, Tafel V.
[6] Arch. Report, 1903–4, Part ii, Pl. lxxi.

(*k*) Medial *o* is also expressed in three ways, of which the wavy detatched top stroke appears to be the most modern.

(*l*) Initial *e* in the earlier inscriptions is almost equilateral in shape. The later forms are more right-angled.

Of these points (*c*), (*e*), (*h*), (*i*), (*j*), (*k*) seem to be the most important. The differentiations under (*a*), (*b*), (*d*), (*f*) and (*l*) may possibly be due to the material used. The evidence on the whole appears to point to the Bakhshāli manuscript coming between the Baijnāth and the Kuḷḷu inscriptions, or say between the eleventh and sixteenth centuries A.D.

VI.

There occur in the Bakhshāli manuscript at least two examples of word-numerals, viz. *rūpa* for 'one' and *rasa* (the flavours) for 'six.' Now it is possible that *rūpa* may have been used for 'one' before the word-numeral system was introduced into India (the system was most probably not indigenous), but the term *rasa* would not have been used for 'six' before that time. Although el-Biruni tells us that Brahmagupta[1] invented this system, the earliest epigraphical instance is, according to Dr. Fleet, A.D. 945, while according to Lüders the earliest instance is dated Vikrama Samvat 898.[2] Bühler quotes the Cicacole inscription (A.D. 641), but this has since been proved to be spurious[3] and the Kadab inscription (A.D. 813) which is deemed doubtful by Lüders and Fleet.[4] Of epigraphical instances of these symbolical words I have come across two only of the ninth century, three of the tenth, a few of the eleventh and numbers of later date.

Again, according to Bühler, "the decimal figures of the Bakhshāli manuscript show the ancient letter numerals for 4 and 9; but these so-called 'ancient' letter numerals are comparatively modern. The tendency to fashion numerical symbols like letters does not appear before the ninth century. However, Bühler's statement is not really borne out by the manuscript itself. There is some resemblance between the 4 and *ka*, the 5 and *pa*, the 6 and *ma*, the 8 and *ha*, and the 9 and the *Om*; but the resemblance is not sufficient to form a premiss for argument. It would, however, not be difficult to pick out from *other* sources letters almost identical in form with the figures in the Bakhshāli manuscript, and therein lies a moral!

Apart from the fact that the place-value notation (which possibly came into India about the tenth century A.D.) is used, it is somewhat difficult to fix a date from the form of the figures.

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[1] Brahmagupta lived in the seventh century A.D., much too late for Hoernle's theories.

[2] Ep. Ind., iv, 335. [3] Ind. Ant., xxx, 211. [4] Ep. Ind., iv, 335.

The 'one' is of the ancient form, consisting as it does of a curved stroke that is approximately horizontal, but we find examples of this usage even to the present day. The three is similar to the symbols used in the eleventh and sixteenth centuries.[1]

The 'four' is of ancient type, but instances of the same type occur in inscriptions of the twelfth century A.D.[2]

The six is the most remarkable, but closely resemble the Devi-ri-kothi 'six.' The eight is also peculiar, but resembles the modern Kashmir 'eight' as much as anything. The Peshawar Museum Inscription of Vanhadaka has figures whose resemblance with those of the Bakhshāli manuscript is striking.

The following table illustrates these points :—

VII.

The whole of the positive evidence so far points to some period after the eleventh century A.D. for the date of the manuscript, and also for the date of the composition of the manuscript. There is no evidence which really indicates an earlier period. The use of the terms *dramma* and *dinaria* and the use of the year of 360 days, although at first glance they appear to indicate antiquity, in reality confirm the above view.

It now remains to examine the most important part of the evidence, viz. the mathematical contents of the work. These, it will be seen, are of the usual Indian type expressed in a form more modern even than the works of Bhāskara twelfth century (A.D.).

The earliest Hindu mathematical works express rules and theorems without illustrative examples [e.g., Āryabhaṭa]. Later on examples were introduced, but without any working [e.g., Mahāvīra], and later on workings of examples and occasional demonstrations were given [e.g., Bhāskara]. In the Bakhshāli manuscript rules, examples, detailed workings and so-called proofs are given. This form of presentation indicates a period later than Bhāskara—if the work is really of Indian composition. Indeed, in all probability, the work is comparatively modern.

The form in which the problems are written differs considerably from the usual early Hindu practice. These early works invariably expressed every rule in words in full. Āryabhaṭa used no symbolism at all (except an alphabetic non-place-value arithmetical notation which he only used in his astronomical work and *not* in his arithmetic !). Brahmagupta used symbols which differ from those of the Bakhshāli manuscript very considerably, but he only used them in certain classes of

[1] I.A., xii, 202; Atharva-Veda (Bloomfield and Garbe).
[2] Ant. Chambā, p. 212, etc.

problems, e.g., indeterminate equations. Mahāvīra uses no notation, and Bhāskara (A.D. twelfth century) is the first Hindu mathematician to refer explicitly to symbols.

In the Bakhshāli manuscript the following symbols are used :—

(i) A dot over the unit is used to express the unknown quantity. This is not the ordinary Indian practice and may possibly be connected with the later Greek practice as exemplified in the works of Diophantus, where a symbol[1] was used to designate the unknown, certain forms of which are not very unlike the Bakhshāli symbol.

(ii) The sign + indicates a negative quantity. It is placed on the right-hand side of the symbol it affects. This also suggests Diophantus who used a symbol that somewhat resembles ↟ or the *psi* inverted.

(iii) *Bhā* (short for *Bhāga* = a fraction) means that the number preceding it is to be treated as a denominator.

(iv) *Pha* (short for *phala* = fruit, answer) denotes equality.

(v) *Ya* (for *yuta* = joined) indicates addition.

(vi) *Mū* (*mūla* = a root) indicates "squaring."

(vii) *a* (? *ādhihana*) indicates the initial term of an arithmetical series.

(viii) *u* (*uttara* = the increase) indicates the common difference.

(ix) *pa* (*pada* = period) means the number of terms.

(x) *dha* (? *dhana*) indicates the sum of the terms.

(xi) *ru* (*rupa*) is used to indicate unity or absolute number.

(xii) *dṛi* (*dṛiśya* = ? visible) denotes total.

(xiii) *śe* (*śesa*) applied by Mahāvīra to a certain class of problems of fractions.

(xiv) Fractions are written with the numerator above the denominator, but without any dividing line. Unity is often written as a denominator.

(xv) Multiplication is generally indicated by juxtaposition.

VIII.

The actual rules and problems are here given. For convenience of reference the *sūtras* or rules are numbered as in the text. The substance of each rule and example is given, but no attempt at a literally accurate rendering has been made. The reader is referred to Hoernle's translation.

[1] T. L. Heath, *Diophantus of Alexandria*, p. 32f.

Sūtra 18. If two arithmetical progressions of the same number of terms (n) have equal sums then

$$n = 2\frac{(a_1 - a_2)}{(d_2 - d_1)} + 1 \text{ and } s = \frac{n}{2}(2a + \overline{n-1}.d)$$

where a_1, a_2 are the initial terms, d_1 and d_2 the common differences.

Example 1.

First terms 2 and 3, increments 3 and 2, $n = 3$, $s = 15$.

Example 2.

First terms 5 and 10, increments 6 and 3, $n = 4\frac{1}{3}$, $s = 65$.

Progressions are treated in all Hindu works. Mahāvīra gives

$$a_2 = \frac{n-1}{2}(d_2 - d_1) + a_1$$

but makes $a_1 = 1$. Bhāskara gives no such rule.

Sūtra 25. Having subtracted the series (of rates) and the multiplication of the instalments from one, determine the original amount by multiplication after dividing.

Example:—A merchant pays octroi (in kind) on certain goods at three different places. At the first he gives $\frac{1}{3}$ of the goods, at the second he gives $\frac{1}{4}$, and at the third $\frac{1}{5}$. The total amount of duty paid is 24. What is the original amount of the goods?

The solution is $\dfrac{24}{1-(1-\frac{1}{3})(1-\frac{1}{4})(1-\frac{1}{5})} = 40$. Answer.

There are three other examples given. Bhāskara gives[1] an example similar to the above. It is as follows:—

Example:—A traveller engaged in a pilgrimage gave half his money at Prayāga; two-ninths of the remainder at Kāśi; a quarter of the residue in payment of taxes on the road; six-tenths of what was left at Gāyā. There remained 63 niśkas with which he returned home. Tell me the amount of his stock of money if you have learned the method of reduction of fractions of residues.

Solution $\dfrac{63}{(1-\frac{1}{2})(1-\frac{2}{5})(1-\frac{1}{4})(1-\frac{6}{10})} = 540.$

[1] *Līlāvati*, § 53

There are also three examples of the same kind of problem given by Mahāvīra.[1] He terms these the *Seṣa* variety of miscellaneous problems on fractions, and in the Bakhshāli manuscript the abbreviation *śe* is used to denote the loss in such problems. This class of examples does not occur in the works of Āryabhaṭa, Brahmaguptā and Śridhāra.

Sūtra 27. Having multiplied severally the parts of gold with the wastage, let the total wastage be divided by the sums of the parts of gold. The results is the wastage of each part of gold.

This means that if $a_1, a_2 \ldots\ldots a_n$ are different quantities of gold, and $w_1\ w_2 \ldots\ldots w_n$ are the respective losses in weight, then $\Sigma aw/\Sigma a =$ the average loss.

Examples:—(1) Gold 1, 2, 3, 4 *suvarṇas*, and losses 1, 2, 3, 4 *māśakas*. The average is

$$\frac{1.1+2.2+3.3+4.4}{1+2+3+4} = 3.$$

(3) Gold 5, 6, 7, 8, 9, 10 and another metal 2, 3, 4. Losses 4, 5, 6, 7, 8, 9 and 1, 2, 3, respectively.

Solution—

$$\frac{5.4+6.5+7.6+8.7+9.8+10.9+2.1+3.2+4.3}{5+6+7+8+9+10} = 7\tfrac{1}{3}.$$

Similar problems are given by Mahāvīra[2] under the title *Suvarṇa-kuttīkāra*. Here is one:—

There are 1 part of gold of 1 *varṇa*, 1 part of 2 *varṇas*, 1 part of 3 *varṇas*, 2 parts of 4 *varṇas*, 4 parts of 5 *varṇas*, 7 parts of 14 *varṇas*. Throwing these into the fire make them all into one, and then say what the *varṇa* of the mixed gold is. This mixed gold is distributed among the owners of the foregoing parts. What does each get?

See also Bhāskara's *Līlāvati*.[3] Śridhāra has also similar rules,[4] while Brahmagupta gives no such problems.

Sūtra 50. What number added to five is a square, that same number lessened by seven is a square. Which number is that? That is the question.

This example, which may be expressed by

$$x+5=m^2$$
$$x-7=n^2$$

occurs in a more general form in Brahmagupta,[5] and el-Karchī gives several examples of the same kind and it is dealt with

[1] p. 74, §§ 29–32. [2] p. 138, §§ 169–180.
[3] Section v. [4] §§ 99–108. [5] Ch. xviii, § 84.

generally by Diophantus.[1] The solution given in the Bakhshāli manuscript is as follows :—

"The sum of the additive and subtractive numbers is 12, the half of it is 6, lessened by 2 is 4, its half 2, its square 4, which is added to the subtractive number and becomes 11. This is the number." This solution is based upon the fact that $\frac{1}{4}\left(\frac{a+b}{p}-p\right)^2+a+b$ is a perfect square. See el-Karchi.[2]

Sūtra 53. *A* earns $\frac{a}{b}$ daily and *B* earns $\frac{c}{d}$. If *A* gives *e* to *B* when will they have equal amounts ?

$$t=\frac{2e}{\frac{a}{b}+\frac{c}{d}}$$

Example 1 :—*A* earns $\frac{8}{3}$ and *B* earns $\frac{6}{5}$. *A* gives 7 to *B* whence they will have equal amounts in 30 days.

Sūtra 54. "With the sale the purchase should be divided ; then divide it again diminished by one, then multiply it with the profit. It is then the capital."

If the rate of cost is *A* and the sale price *B* and the total profit *P*, then the capital is $\frac{P}{B/A-1}$.

Example :—"One purchases (at the rate of) seven for two and sells (at the rate of) six for three. Eighteen is his profit. Say now what is his capital ?"

$$\text{Answer}\quad \frac{18}{\frac{3}{6}/\frac{3}{7}-1}=24.$$

Unnumbered Sūtras and Examples.

1. *A* gives x, *B* gives $2x$, *C* gives $3x$, *D* gives $4x$. The total is 200.

$$1+2+3+4=10 \quad \frac{200}{10}=20.$$

Therefore $20+40+60+80=200$ are the numbers.

2. *A* gives x, *B* gives twice as much as *A*, *C* gives 3 times as much as *B*, *D* gives 4 times as much as *C*, and the total is 132.

If *A* gives 1, then *B* gives 2, *C* gives 6, *D* gives 24.

$$1+2+6+24=33 \quad x=\frac{132}{33}=4.$$

[1] ii, 11 f. [2] Woepcke, p. 63.

3. A has x, B has $2A$, C has $3(A+B)$, D has $4(A+B+C)$. The total is 300.

Put $x=1$, then A has 1, B has 2, C has 9, D has 48.

$$1+2+9+48=60 \text{ and } x=\tfrac{300}{60}=5.$$

4. A has $x+1\frac{1}{2}$; B has $2A+2\frac{1}{2}$; C has $3B+3\frac{1}{2}$; D has $4C+4\frac{1}{2}$. Their total is $144\frac{1}{2}$.

Put $x=1$, then A has $2\frac{1}{2}$, B has $7\frac{1}{2}$, C has 26; D has $108\frac{1}{2}$.

$$2\tfrac{1}{2}+7\tfrac{1}{2}+26+108\tfrac{1}{2}=144\tfrac{1}{2} \text{ and } x=1.$$

5. A gives $x+\frac{3}{4}$; B gives $2\frac{1}{2}+2A$; C gives $3\frac{1}{2}+3(A+B)$; D gives $4\frac{1}{2}+4(A+B+C)$. The total is 222.

Put $x=1$, then A gives $2\frac{1}{2}$; B $7\frac{1}{2}$; C $33\frac{1}{2}$; D $138\frac{1}{2}$ and

$$2\tfrac{1}{2}+7\tfrac{1}{2}+33\tfrac{1}{2}+178\tfrac{1}{2}=222 \text{ and } x=1.$$

This method of solution is termed by Bhāskara *Iśta karman* or operation with an assumed number. It corresponds to the old Egyptian rule of false position.

IX.

From these rules and examples and the aid of a knowledge of other Hindu works we may almost conjecture the contents of the whole work. It was probably an ordinary compendium of rules and examples such as these by Srīdhāra, Mahāvīra and Bhāskara.

The foregoing notes on particular rules and problems show that there is nothing in them to indicate a very great age for the work. There is not the least doubt that the work is after the time of Brahmagupta, and the indications are that it is even later than Bhāskara. While there is no positive evidence against this there is evidence of a general nature which leads us to believe that Bhāskara wrote before the Bakhshāli manuscript was written. As pointed out above the form of presentation is distinctly modern; the rules and problems are similar to those of the twelfth century, and there is not a single bit of evidence to indicate any earlier period. Indeed the evidence of this section supports the conclusions that were based upon the evidence in other sections.

The literary form and the mathematical form of the manuscript points to a comparatively late period; the script is not ancient; the notation used and the rules and examples have nothing ancient about them, and my general conclusion is that the manuscript was not written much before the twelfth century A.D. It may have been an adaptation of a more ancient work, but it is certainly not a faithful *copy* of any work composed much before the twelfth century.

34. The Ash of the Plantain (*Musa sapientum*, Linn.).

By David Hooper.

The ash of the leaves and stalks of the plantain has long been used in India for various industrial purposes. It is employed by the dyers as an alkaline mordant, by dhobis in place of soap, and by doctors as a medicine; it yields a crude form of table salt, and it is frequently used by villagers as a manure. McCann in "Dyes and Tans of Bengal" remarks, "The ashes of the leaves, etc., of the plantain are universally employed in many dyeing processes in Bengal." The ash prepared by burning the dried leaves and stalks is soaked in water and the liquor is called "Khar pani." In this liquor the dyed fabrics are immersed and the colour fixed. "Khar-pani" is prepared also from the ashes of other plants as *Achyranthes aspera*, *Boerhaavia diffusa*, *Gmelina arborea* and *Vitex trifolia*, but the plantain, on account of its abundance near every village, has a peculiar reputation in the dyeing industry.

There is an interesting account of the preparation of salt from plantain leaves in Tavernier's "Travels" (Vol. II, 283, also II, 4). Referring to the visit to Assam the author writes as follows:—"Finally, as regards salt, there is none in the Kingdom but what is manufactured which is done in two ways, ... The other method which is that most commonly followed: take some of those leaves of the kind of fig tree which we call [1] Adam's fig, they are dried in the same manner and burnt, and the ashes of these consist of a kind of salt which is so pungent that it is impossible to eat it unless it is softened: this is done in the following way. The ashes are put into water, where they are stirred about for ten to twelve hours, then this water is strained three times through a cloth and then boiled. As it boils the sediment thickens, and when the water is all consumed, the salt which is white and fairly good is found at the bottom.

"It is from the ashes of fig leaves that in this country the lye is made to boil silk, which becomes as white as snow, and if the people of Assam had more figs than they have, they would make all their silks white, because white silk is much more valuable than the other, but they have not sufficient to bleach half the silks which are produced in the country."

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[1] Early Italian travellers called the plant "Fico d'Adamo."

In a footnote to this extract it is recorded that the manufacture of salt from the leaves of the plantain is mentioned by Muhammed Kazim, and it is pointed out by the editor that the pungency is probably due to the presence of potash salts.

In a paper[1] read before this Society about eighty years ago, Mr. J. Stevenson, Superintendent, Saltpetre Factory, Behar, published the composition of the ashes of certain Indian plants used in local industries. These consisted of spent indigo, poppy, tobacco and "gada purnah" (*Boerhaavia diffusa*, Linn.). The latter was used by dhobis as a substitute for soap. The composition, as might be expected, was very variable, the portion soluble in water ranged from 28 to 49 per cent and was returned as a mixture of carbonate, chloride and sulphate of potassium.

It was considered a matter worthy of enquiry to examine some samples of the ash of plantain leaves to discover if they possessed any uniformity of composition and an alkalinity superior to the ash of other plants. In the Industrial Section of the Indian Museum there are four specimens of plantain ash supplied some years ago in connection with indigenous dyeing processes. They were from Burma, Murshidabad, Manipur (where the ash is called "Lapee-ut") and a Bengal village. A sample of the ash prepared from plants grown in the Sunderbuns was also tested. On igniting the samples and estimating the solubility and alkalinity they afforded the following figures :

	Sunderbuns.	Burma.	Murshidabad.	Manipur.	Bengal.
Volatile matter ..	8·75	14·15	19·8	17·00	12·60
Sol. in water ..	25·00	27·51	19·2	10·26	7·94
Sol. in acid ..	44·00	23·24	24·0	20·70	31·16
Insoluble ..	22·25	35·10	37·0	52·04	48·30
Alkalinity as KHO	8·05	15·01	12·08	6·58	3·29

This partial analysis of the samples exhibits an absence of uniformity in the composition, the chief features being the water-soluble matter ranging from 7·94 to 27·51, with a certain correspondence in the alkalinity, and insoluble silica from 22·2 to 52·04 per cent.

Assuming the probability of the samples of ash from Manipur and the Bengal village having been partly washed with water, it was decided that analyses should be made of the ash of the leaves ignited under personal supervision. Two samples of leaves from plants growing near Calcutta were accordingly burnt in platinum crucibles, and detailed analyses of the ashes together with the ash from Burma were made by my assistant, Babu Kali Prosana Ray, M.A. The percentage of ash in No. 1 was 8·75 and in No. 2, 11·5.

1 *Journ. Asiat. Soc. Beng.*, Vol. II (1833), 322.

	Calcutta bazar. 1	Calcutta, Belvedere. 2	Burma.
Silica	5·30	31·36	34·65
Iron and alumina ..	5·60	4·79	7·27
Lime	11·40	12·36	7·26
Magnesia	3·92	8·44	4·44
Potash	33·05	16·59	13·98
Soda	2·05	10·28	5·47
Phosphoric acid ..	9·70	5·21	3·03
Sulphuric ,, ..	8·23	2·84	2·35
Carbonic ,, ..	12·40	1·87	6·43
Chlorine	5·40	6·49	3·10

Manganese was present in all the samples.

There are some striking differences in the combination of inorganic elements in the three trees of the same botanical origin grown in various localities, and it cannot be said that any one constituent exists in a constant proportion, or that the ash of the plantain has a peculiarly characteristic composition. There is a remarkably small amount of silica in the ash of the leaves from Calcutta market, the presence of which does not proportionately raise the soluble constituents except the potash and phosphoric and sulphuric acids. The lime, potash and phosphoric acid have a certain value in agriculture, but it is evident that plantain ash has no standard composition such as is now required in all commercial manures.

Partial analyses of the ash of the young and mature leaves and midrib showed also considerable differences in the amount and relation of the salts present.

In "Teysmannia" (Vol. 20, 1909, 644) the results are given of the examination of the ash of various tropical plants. Of the leaves of *Musa* it is recorded that the quantity of ash is 10·87 per cent., with 2·42 per cent of silica and 1·04 per cent of lime. As shown above the analysis of individual samples of plant organs has only a limited value.

It will be interesting to quote the analysis of the fruit of the banana or plantain from Venezuela made by Marcane and Muntz (*Jahresber. f. Agric. Chem.*, 1877, 20, 125, and 1879, 22, 104). It contained potassium sulphate 3·61, potassium chloride 14·34, magnesium phosphate 8·77, potassium oxide 27·12, potassium carbonate 41·66, calcium carbonate 1·17, iron oxide 0·36, silica 2·06.

The husk of the fruit contained potassium carbonate 47·98, sodium carbonate 6·58, potassium chloride 25·18, alkaline phosphate (with a little sulphate) 5·66, charcoal 7·5, lime 7·1, silica and earthy phosphates.

De Saussure, so long ago as 1804, recognized that the ash of a particular plant is considerably influenced by the nature of the

soil in which it is growing, notwithstanding the fact that plants have a selective capacity for assimilating organic and inorganic nutritive material. The comparatively large amount of chlorine found in the ash of the plantain grown in the brackish region of the Sunderbuns supports De Saussure's conclusions. Considerable differences have been observed in the percentage of mineral elements in a given species of plant grown under different environments, and the plantain is no exception to the rule. It is reasonable to infer that the composition of the ash of a fast-growing tree like *Musa* is more variable than that of the ash of a slow-growing tree like tea. This, however, is a subject of physiological botany which goes beyond the scope of the paper, which is an attempt to deal with the economic value of plantain ash as shown in the composition of a few samples of Indian origin.

35. A Compound of Sodium Cuprous Thiosulphate and Acetylene Cuprous Acetylide. (*Preliminary notice*).

By KSHITIBHUSHAN BHADURI, M.Sc.

When a solution of sodium thiosulphate is added to one of copper acetate until the colour becomes pale green, and acetylene gas is passed into the solution, the colour gradually changes to red, and finally a red precipitate separates out. The precipitate is washed by decantation with alcohol, filtered, and washed on the filter again with alcohol. Both the sodium thiosulphate and copper acetate being soluble in alcohol, there is no difficulty in removing them. The precipitate is, however, completely soluble in water and hence cannot be washed with it. Its solution in water has a blood-red colour. The cold solution is perfectly stable, but if it be heated, cupric sulphide separates out, and acetylene gas is evolved. A similar change can be brought about by the addition of hydrochloric acid. When the acid is added the solution at once becomes colourless, and if it be immediately neutralized with an alkali the original red substance is reprecipitated. The cold acid solution very slowly gives off acetylene and sulphur dioxide, sulphide of copper being precipitated.

The substance can be salted out from its aqueous solution by the addition of almost any salt; and in the case of some salts the precipitation is so complete that the supernatant liquid is perfectly colourless. But curiously enough the substance is as soluble in a concentrated solution of sodium chloride as in water. When heated in a capillary tube the substance begins to decompose above 140°C, the decomposition being complete when the temperature reaches 160 °C. When the substance is touched with a hot platinum wire it burns like gunpowder.

On analysis one sample of the substance gave :—

From 0·1664 grms.—0·03886 grms. of Na_2SO_4 and 0·0915 grms. of Cu_2S; from 0·1819 grms :—0·2798 grms. of $BaSO_4$.

Another sample of the substance gave :—

From 0·1517 grms.—0·0847 grms. of Cu_2S.
,, 0·1668 ,, —0·2580 ,, $BaSO_4$.

From which the percentage of—

Na = 7·56, Cu = 44·7 and S = 21·2,

the theoretical value for the formula $4\,Cu_2S_2O_3\,4\,Na_2S_2O_3\,5\,Cu_2C_2\,7C_2\,H_2$ being—

$$Na = 7{\cdot}33,\ Cu = 45{\cdot}2,\ S = 20{\cdot}4.$$

When the substance is decomposed in vacuum it gives off a large amount of SO_2 and CO_2 with an admixture of a little acetylene.

When the substance is treated with an alkali it undergoes a modification, an insoluble brown-coloured substance being the result.

The author is now engaged in studying its properties and the analysis of the gases obtained by explosion.

36. Note on the Interaction of Hydrazines with Ferri-cyanides.

By Priyadaranjan Ray and Hemendra Kumar Sen.

The oxidation of hydrazine has been elaborately studied by Browne and Shetterly (cf. Journal Am. Chem. Soc. *31*, (1909), p. 783), from the standpoint of the formation of ammonia and hydronitric acid. They have pronounced the reaction between iodic acid and hydrazine as the only instance where it is free from any side disturbances. According to their suggestion Hale and Redfield (Jl. Am. Ch. Soc., *33*, (1911), p. 1353), have evaluated hydrazine by this method, confirming the work of Rimini (cf. Atti. Acad. Lincei [5], *15*, II, p. 320). But the method of estimation is inconvenient and requires considerable time; further the apparatus necessary is cumbrous and is not ordinarily available.

As a ready method of evaluating hydrazine was necessary in the course of our study of some dynamical problems (dynamics of the interaction of bromic acid with hydrazine), we set about the task of finding out one. Accordingly, we attempted the oxidizing action of alkaline ferri-cyanides upon hydrazine—a reaction found to be entirely free from any side disturbances and hence from the objections raised by Browne and Shetterly in connection with the action of many other oxidizing agents.

In the present case the method of evaluation is simplicity itself and the results obtained are also surprisingly accurate. The only apparatus necessary is a Crum's nitrometer, into which hydrazine sulphate has only to be weighed out, the solution rendered alkaline, and pellets of potassium ferri-cyanide introduced from below. The reaction proceeds very smoothly and is complete within two or three minutes. The volume of nitrogen collected gives the measure of hydrazine according to the simple oxidation formula:—

$$N_2H_4 + O_2 = N_2 + 2H_2O.$$

The most far-reaching effect, however, of the above reaction is the reverse evaluation of ferri-cyanides. The reaction proceeds according to the following equation:—

$$4K_3Fe(CN)_6 + 4KOH + N_2H_4 = N_2 + 4K_4Fe(CN)_6 + 4H_2O.$$

It has a decided advantage over the permanganate process in so far as the end point in the latter case can rarely be correctly hit off, not to speak of the unusually long time required to finish the whole operation.

It need scarcely be pointed out that hence arises a simple method of detecting and estimating ferri-cyanides in presence of ferro-cyanides. We are at present engaged in studying the dynamics of the above reaction, expecting it to be a multi-molecular one.

37. On Isomeric Allylamines. (*Second Communication*).

By Prafulla Chandra Rây and Rasik Lal Datta.

The preparation and properties of allylammonium nitrite were described in a paper to the Society (Rây and Datta, Journ. Asiatic Soc., 1912, 8, 101) and during its preparation two amines of distinct boiling points were obtained, as noticed in our preliminary communication (Rây and Datta, Journ. Asiatic Soc., 1912, 8, 103). The cause of the isomerism was not then clear, since for the sulphuric acid hydrolysis we used the synthetic mustard-oil, but for the hydrochloric acid hydrolysis we used the natural one.

With a view to clear up the point, pure mustard-oil obtained from Kahlbaum was redistilled and it was found that a small portion of the oil passed off between 140 and 150° and then nearly the whole of the oil boiled sharply between 150 and 151°. This latter fraction was hydrolysed by both the acids. First, the hydrolysis was effected with strong sulphuric acid according to the method of Hofmann (Ber. 1868, 1, 182) and it was found that the mixture began to boil at 53°, but the greater portion boiled at 58°. Then the hydrolysis was carried out by a slightly weaker sulphuric acid and it was found that the fraction boiling at 53° predominated, though the fraction boiling at 58° was also formed. It is necessary to point out that in the case of the hydrolysis with strong sulphuric acid, the hydrolysis is finished almost immediately, but with the weak acid it takes a little time.

Next, a portion was hydrolysed according to the method of Gabriel and Eschenbach (Ber. 1897, 30, 1125) and it was found, as noticed in our previous communication, that the amine obtained boiled at 53°, mixed with only a small quantity of that boiling at 58°. Gabriel and Eschenbach, however, described the boiling point as ranging between 55 −58°.

Recently we obtained samples of allylamine from Kahlbaum (Berlin) and redistilled them, when it was found that most of the amine boiled at 53·3° with only a small portion which boils higher. Further to determine the purity of the amine, combustion analyses were made and they were found to agree closely with the theory.

·1055 gave 24·9 c.c. N_2 at 33° and 760 mm.; N = 25·74.
·1083 gave ·2482 CO_2 and ·1315 H_2O; C = 62·53; H = 13·49.
·1179 gave ·2720 CO_2 and ·1382 H_2O; C = 62·92; H = 13·02.
Calc. for $C_3H_5NH_2$; C = 63·15; H = 12·29; N = 24·56.

Hence the amine supplied by Kahlbaum is pure and consists of one kind only, and he presumably obtained it by eliminating the other small fractions from the amine obtained by the hydrolysis of mustard-oil with 20% hydrochloric acid according to the method of Gabriel and Eschenbach. Perkin (Trans. Chem. Soc., 1889, 55, 697) noticed while determining some physical constants of amines that the allylamine which he used had a boiling point 53·3°. Now, two allylamines are known, iso-allylamine, $CH_3.CH=CH.NH_2$, which is obtained by boiling β-propylamine with caustic potash (Gabriel, Hirsch, Ber. 1896, 29, 747) and has a boiling point 66 – 67°, and normal allylamine, $CH_2=CH.CH_2NH_2$, with contradictory statements of boiling point, viz., 53·3° and 58°. But there is a possibility of the existence of a third amine of the formula $CH_2=C(NH_2).CH_3$. Hence, the two normal amines have now to be differentiated and called α and β according to the position of the NH_2 group. Thus α-allylamine $CH_2=CH.CH_2NH_2$ is the amine known, and β-allylamine $CH_2=C(NH_2).CH_3$ is the amine whose existence is being established.

It is evident from the laws of homologous series that the α-amine is that with the higher boiling point, viz., 58°, and the β-amine is that with the lower boiling point, 53·3°.

Hence, the amines may now be tabulated as follows :—

Iso-allylamine, $CH_3CH=CH.NH_2$
α-allylamine, $CH_2=CH.CH_2.NH_2$
β-allylamine, $CH_2=C(NH_2).CH_3$

We are at present engaged in studying the properties of the different fractions with a view further to establish their identity.

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38. Theories to explain the Origin of the Visen Family of Majhawali.

By M. M. Haraprasād Shāstri.

I propose in the following pages to write a history of the Bissen Kṣattriyas of Oudh. There are no less than thirteen chieftains of this family in that Province. They have achieved for themselves by their loyalty, devotion to the Throne, their public spirit and open-handed liberality, a position among the Chiefs of India inferior only to the great ruling chiefs of the Empire.

The origin of the Bissens, like that of so many distinguished Indian Ruling Clans, is lost in the obscurity of distant ages. The work of investigation of that origin has been made doubly difficult by the various conflicting theories that have been started to explain their obscure origin. Some of the theories are diametrically opposed to one another, one contradicting the other in the most essential points. In the present case the theories are many: nor are the historians of the family to be blamed for starting theories which are on the face of them impossible. For the accurate and systematic investigation of Indian history has only very lately been begun. Even then the paucity of verified materials, and still more the paucity of sincere and earnest workers in the field of history, make it difficult to say anything authoritatively on Indian historical problems.

The sheet-anchor of the history of the Bissen family is, however, a tradition long current in the family and admitted to be reliable by such competent authorities as Sir Henry Elliott; and that tradition is that the present head of the family is 115th in descent from the founder. Starting with this, the *terra firma* of the history of the family, the historians have formulated various theories which it is desirable to examine carefully. There are some statements in the ancient traditions that the family is a Brahma-Kṣattriya family that is, Kṣattriya closely connected with Brahmins. Proceeding on this statement the writers make Mayūra, a Brāhmin, the father of Viśva Sen, the founder of the family. And as there was a famous Mayūra, a Brāhmin poet of great celebrity, they identified this Mayūra with that and somehow explained the origin of the family. But the position is untenable. Much, however, is known of Mayūra Kavi who was the contemporary, and some say the father-in-law, of Vāṇa Bhaṭṭa, the Court paṇḍit of Harṣavardhana, the last great Hindu Emperor of

India, and the author of Kādambarī and Harṣacarita. Nāgojī Bhatta, the great commentator of the 18th century on Mahābhāssya and various other works, and a man of phenomenal learning and phenomenal activity, whose survey of Indian literature was perhaps the widest ever known, has written a commentary on Mayūra's Sūrya Śataka in the preface to which he has given the whole tradition about Mayūra, his transgression, his leprosy, his determination to commit suicide by hanging, his century of hymns to the Sun, his deliverance from the dire disease, his relations with Vāṇa, his son-in-law and rival, and his sojourn in Kanouj, the capital of the Empire.

The age of these three great men—Harṣa, Vāṇa and Mayūra—is well known. Harṣa reigned from 606 to 648; Vāṇa died before the middle of the reign without finishing the first great historical work in India which he undertook, namely, the history of Harṣavardhana Mayūra lived to a great age but it is not known when he died.

If the Bissen family is to be traced from this Mayūra, 115 generations are to be crammed into little more than 12 centuries, giving nine generations to a century, a thing which transcends belief and is against all human probability.

Another attempt was made to identify this Mayūra with the newly discovered Mayūra Varmā in the Carnatic who renounced his Brahminhood to wreak his vengeance on the Pallavas of Kāncī for insults heaped on him. He founded a family and a monarchy which lasted several centuries. Kākustha Varmā was fifth from him in descent and his date is 485 A.D. Allowing two centuries for five generations Mayūra would come to the fourth century A.D This would give us about 17 centuries for 115 generations, that is, nearly seven generations to a century. This also is an impossible calculation.

The Bissens for 79 generations had the surname Sena. From the 80th they changed it into Malla. This is a statement given by the genealogist of the family. Now the Mallas of Kośala were a powerful ruling tribe in the neighbourhood of the scenes of the greatest activity of Buddha Śākya Singha, and an attempt has been made to trace the origin of the Bissens from the Malla king of Pava in Kośala, in whose territory, Kuśīnārā or Kusīnagara, the place where Buddha attained his Nirvāṇa, was situated. This theory has no connection with Mayūra and I believe the scholar who advanced it did not consider it possible any longer to connect Mayūra with Bissen family in the light of modern researches. The theory is weak as the Bissens are Mallas but recently, only about 35 generations, a period which cannot be by any manipulation of arithmetical figures stretched to spread over more than 24 centuries which have elasped since the Nirvāna of Buddha.

This would give only a generation and a half to the century. The family tradition (Bissen Vaṇśa Vāṭīkā) says that the title of Malla came into use at one of the sieges of Chitore, so that 900 years for 36 generations does not appear improbable.

I would therefore propose to identify the founder of the family of Bissen Kṣattriyas with Viśvasena, the Kṣattriya Rājā of Benares, three or four centuries before Buddha. He was an historical person, the father of Pārśvanātha, the real founder of the Jaina religion. The Jainas of India believe in the existence of 24 Tīrthaṅkaras from the beginning of time. European and Indian scholars agree in thinking that 22 of these great personages are mythical and hypothetical; but they believe that the 23rd Pārśvanātha and the 24th Vardhamāna are real historical persons, and such of the traditions as attach to these are historical Vardhamāna after his renouncement of the world entered a Jaina monastery at Vaiśālī, his birth-place, and Jaina monasteries seem to have been in a flourishing condition all over Eastern India in his time. Pārśvanātha died at Sammedagiri, the Pārśvanātha Hills, near the Giridhi Station of the East Indian Railway.

His father's name was Viśvasena. The Pārśvanātha Carita does not speak of Pārśva's brothers, but that book is a religious work and concerns itself but little with the history of the family in which he was born. We hear of the kingdom of the Kāśī later on in the Buddhist annals. So the family must have been continued for several generations on the throne of Kāśī, till the great struggle for supremacy which overthrew all the monarchies of Kośala and led to the establishment of the Magadh Empire in the early 4th century B.C.

There is more than one strong point in the Malla theory which may commend it to the favourable consideration of scholars, namely, the vicinity of their possessions to the cradle of Bissen power in modern times, that is, Majhaulie in the Gorakhpur district. Kasia in the Gorakhpur district, which still belongs to the Majhaulie Rāj, has been identified by Dr. Hoernle and Mr. Pargiter with Kuśīnāgrā, the place where Buddha entered Nirvāṇa. But the Viśvasena theory is also strong in that point. Benares is not very far from Majhaulie and Gorakhpur, both of which in ancient and modern times were often included in the kingdom of the province of Kāśī. In 'Gorakhpore Darpan' it is said that the edifice known as "Sahan Kot" in Rudrapur, Pargana Sylhet, was built by one of the Rājās of Kāśī. Probably it was the work of one of the Sena Rājās of Kāśī and the name Sena Kot got corrupted into "Sahan Kot." It is moreover mentioned in the "Bissen Vaṅśā Vāṭīkā" that this pargana along with others was presented to the Rājā of Rudrapur Sātāśi by one of the Rājās of Majhoulie, thus showing that Viśva Sen of Kāśī has some connection with the Bissen family. It is also stated in the

above-mentioned book that the Majhoulie Rāj once extended as far East as Patna, West as Belwa Bazar, South as the Saryū and North as Nepal. It has another strong point as the philological derivation of Bissen from Visva Sen would commend itself to all grammarians, and the third strong point is that it would spread 115 generations to about 30 centuries, giving less than four generations in the century. The Jainas seem to delight in the surname Sena. In the Jaina Paṭṭāvalis this surname occurs more frequently than among the rest of the population. Some of the Jaina Paṭṭāvalīs are full of this surname. The reason of the predeliction of the Jains for this surname is not far to seek, for their great founder was himself the son of a Sena. In the Buddhist birth stories Brahma Datta is mentioned as the king of Kāśī who is said to have flourished long before the birth of Buddha. Hari vaṇśa Purāṇa, chapter XX, parva I, says that the king was a Brahma Kṣattriya; he married the daughter of Śukrācārya and was the father of Viṣvak Sena. This Viṣvak Sena might be the Visva Sena of the Jain Annals, from whom it is not difficult to derive the name of Bissens.

That we have not got a systematic history of the Bissen family is owing to the fact of Śūdras gaining supremacy in Magadh and casting the Kṣattriya races of the whole of Northern India into the shade. They were not even encouraged to hold high offices during the ascendancy of the Nandas and the Mauryas, who looked only upon ability and merit for employment under the State and cared very little for caste or creed. The Kṣattriyas fared very badly and were compelled by circumstances to take to occupations other than warlike. It is, however, possible that a branch of the Bissen family settled in Southern India and was the source of the Sena Kings of Bengal who are undisputedly called Brahma-Kṣattriyas. The Sena Kings derive their origin from Pāṇḍavas (see Vallāla Carita), and taking into consideration that Brahmadatta, the father of Viṣvak Sena or Viśva Sena, is described in the Harivaṅśa Purāna as a descendant of Puru and becoming a Brahma-Kṣattriya by inter-marrying with the families of Brahma-Ṛṣis, the difficulty disappears. After assuming the title of Malla, another offshoot of this family might have gone to Nepal and given birth to the old Malla Kings of that country.

One point still remains to be mentioned, and it is that both the Rājās of Majhauli and of Hathwa trace their origin from Mayūra Kavi, though from different wives. The Majhauli genealogy says that Vīra Sena was third in descent from Mayūra and therefore a Bissen, while the Hathwa house claims him to be a son of Mayūra by his second wife and therefore its founder. Elliott, however, affirms that the name was Baghumber Sahi and the Hathwa Raj family still bears the title of Sahi and

not of Sena. Whether this Vīra Sena was the great Vīra Sena, the conqueror of Southern India, and whether any connection existed between Mayūra and the above-mentioned families, are still matters for research.

Yet another theory has been started to explain the origin of name Vissen or Visen. It is said that the Visen family is only an offshoot of the Vṛṣṇis so celebrated in the Mahābhārata. The Vṛṣṇis are taken sometimes as another epithet for Yadus and sometimes as a branch of the Yadus. The founder of the family is said to have been Vṛṣana as descendant of Yadu. That the Vṛṣṇis or Vārṣṇeyas were an influential clan is evidenced by even Kṛṣṇa being called a Vārṣṇeya. The Yadavas had their ramifications all over India and not in the Deccan alone. Recent discoveries in Bengal have shown that in the tenth century A.D. Yādavas were ruling in Eastern India. If the Vissens are Vṛṣṇis there can be no difficulty in explaining the length of their genealogy. Their connection with Brāhmaṇa might be of a subsequent date.

39. Remarks on the Tibetan Manuscript Vocabularies in Bishop's College, Calcutta.

By the Rev. Father Felix, O.C.

The first publication of a Lexicon and a Grammar of the Tibetan language, printed at Serampore in 1826, was an event which made an epoch in the study of Asiatic literature.

The notions possessed at that time in Europe of this important language date back to the beginning of the eighteenth century, when a Tibeto-Mongol library was discovered in the ruins of the Buddhist convent of Ablaiinkit, on the left bank of the Irtish [1]

It is well known that, in 1722, Peter the Great, sent a volume from this library to the '*Académie des Inscriptions et Belles Lettres*' at Paris. This Society asked E. Fourmont to report on it, and this learned man recognized the writing of it to be Tibetan and ventured to undertake not only a reading of it, but even the translation of one page, by the help of a small Latin-Tibetan Vocabulary, composed by the Capuchin Father Domenico da Fano,[2] a work doubtless very incomplete and faulty with regard to orthography. It is obvious that a work compiled with the aid of such defective materials could not render with exactness the meaning of the original.

The Capuchin Friars who were settled in Lhasa for a quarter of a century from 1706 studied the languages. Two of them, Francisco Orazio della Penna, well known for his accurate description of Tibet, and Cassiano di Macerata sent home materials which were utilized by the Augustinian Friar, Aug. Ant. Georgi of Rimini, in his *Alphabetum Tibetanum* (Rome 1762, 4°, p. 559), a ponderous and confused compilation, which may be still referred to, but with great caution. The Tibetan characters were designed by della Penna and engraved by Anthony Fontarita (Antonius Fantautius) in 1738.

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[1] A. Georgi, *Alph. Tibet.*, pp. 570, 663, sqq.

[2] M. M. Pauthier et G. Brunet, '*Les Livres sacrés de toutes les religions sauf la Bible*,' Edit. I. P. Migne, 1866, Tom. II, p. 375, col. 2. "Among all the travellers who succeeded one another in these parts of Asia, from the thirteenth century till the eighteenth, not one busied himself with making their language known to us. We must come down to Father Domenico da Fano, of whom the Bibliothèque Nationale possesses a Latin-Tibetan vocabulary (cf. *Recherches sur les langues tartares* par Abel Rémusat, tom. I, p. 336) and to Fathers Orazio della Penna and Cassiano, to obtain exact details on the idiom and writing of Tibet." See also *Mélanges posthumes d'Histoire et de Littérature Orientales*, par Abel Rémusat, Paris, MDCCCXLIII, and *Nouv. Journ. Asiat.*, 2e série, vol. 1, 1828, p. 401.

Father Cassiano di Macerata published in 1773 a small Grammar entitled *Alphabetum Tangutanum sive Tibetanum*: pp. i-xvi; Grammar, 1-138. Typis S. C. de Prop. Fide.

Abel Rémusat entirely translated into French the Buddhist vocabulary, published at Pekin in five languages, namely: Sanskrit, Manchu, Mongol, Chinese, and French, and was able, in 1820, to present in his *Recherches sur les Langues Tartares* correcter views on the language of Tibet than those which existed until then.

The English, who lived in India, were specially interested in procuring for themselves detailed informations on Tibet, a country said to be very rich in gold, and situated in the neighbourhood of their possessions. It is not astonishing, then, that they tried to obtain the means to study the language of a country so interesting both religiously and physically. It is to their efforts that we owe the publication of a Tibetan Grammar and Dictionary, printed at Serampore in 1826, and bearing the following title:

"A Dictionary of the Bhotanta or Boutan language, printed from a manuscript copy, made by the late Rev. Frederic Christian Gotthelf Schroeter, edited by John Marshman. To which is prefixed a Grammar of the Bhotanta language, by Frederic Christian Gotthelf Schroeter, edited by W. Carey, D.D., F.L.S., F.G.S., Serampore, 1826."

With regard to Schroeter's grammatical notice, consisting of forty pages, and prefixed to this *Dictionary of the Bhotanta or Boutan Language*, it is, according to the avowal of Carey himself, "very short and deficient in some important points, but it is all that Mr. Schroeter had written." (Preface, pp. ii, iii). "The past tense of the verb 'to be' is wanting," says Mr. Klaproth, as well as the conjugation of a Passive Verb, the remarks on indeclinable words, and the Syntax. Nevertheless, "this work helps to clear up several points upon which we possessed but very imperfect notions."[1]

The Tibetan-English Dictionary, intended for European students, which was edited by John Marshman and was published with Tibetan types at the expense of the East India Company in 1826 at Serampore, was from a MS. copy made by Fr. Chr. G. Schroeter, who had substituted English for the Italian of the original. It is bodily the work of an Italian Capuchin Missionary, who had been stationed for several years in Lhasa.

Carey himself suggests this hypothesis in his preface: "It is highly probable that the following Dictionary was written by some of the Roman Catholic Missionaries who formerly laboured in Thibet. A copy of it was in the posses-

[1] *Nouveau Journal Asiatique*, 2e série, vol. 1, 1828, pp. 401—423. 'Observations sur le Dictionnaire Tubétain imprimé à Sérampore, par M. Klaproth.'

sion of the late Major Latter, which was copied by the late Mr. Schroeter, a missionary belonging to the Church Missionary Society. Mr. Schroeter was placed at Tantaliya, a military post in Purneah, and received a salary from Government. On his demise his manuscripts were submitted to the inspection of the editor, and at his recommendation, the printing of the whole was sanctioned by Government, and the expense supported by a generous subscription. The Dictionary was originally written in *Italian*, and has been partly translated into English by Mr. Marshman. Some few words, the explanation of which was very obscure, are marked with a *" [1]

"Notwithstanding the numerous imperfections in this work," reported Klaproth,[2] "we are greatly obliged to the editors who have undertaken its publication, because they had to overcome great difficulties. The greatest and hardest, without doubt, arose from the ignorance of the language of which they published the Dictionary, and secondly, from the want of Tibetan types. Hence they were obliged to have these moulded .... These small defects would be of little importance, if the Dictionary had been more complete and better disposed. We cannot but give praise to the order in which the words have been arranged, an order much more convenient and easy for Europeans, who wish to consult this lexicon, than the one the Tibetans generally use in works of this kind. But the essential defect of the book is the want of a great number of necessary words, which is in no way compensated by a multitude of often useless phrases. Many essential words are found only in these phrases, and one searches in vain for them at their proper place. The explanations in English are partly too vague, partly inexact and even faulty. The names relative to religion and Indian mythology are commonly explained by Sanskrit synonyms. We find at every moment the names of Siva, Indra, Ouma, Vishnou, Krishna, Kartikra, etc., as explanations of Tibetan phrases, which appear to contain the titles and designations of different manifestations of these divinities rather than their names."

The Tibetan-English Dictionary published at Serampore in 1826, under the name of Schroeter, was not his work. This German Missionary merely copied at Major Barre Latter's house (*ante* 1820) a Tibetan-Italian Dictionary of which the Major [3]

[1] I found also another reference to this work in the *Memoir of William Carey, D.D.*, by Eustache Carey, London, MDCCCXXXVI, pp. 550-1. Letter dated: Calcutta, July 18, 1823, Dr. Carey to Dr. Ryland. "I have also engaged to correct and publish the labours of the late Mr. Schroeter ..... They consist of materials for a Grammar and Dictionary of the Bhote or Thibet language. The Grammar I must write from the materials, and the interpretations of the words in the Dictionary being in the *Italian* language, I shall have to translate."

[2] *Nouv. Journ. Asiat., op. cit.*

[3] See Appendix.

had obtained copies from Bettiah and Patria.[1] This Dictionary was no other but the lexicon containing thirty-three thousand words, which was kept in Nepal in the hospice of the Capuchins, according to Georgi,[2] who regretted this book and despaired ever to see it. Father Hervas[3] in his '*Catalogue of Languages*' mentions the same: "In the hospice of the Capuchin Fathers at Nekpal in Tibet exists a Tibetan Dictionary of 33,000 words."

In January 1911, the attention of scholars was drawn to the original MS. in Bishop's College, Calcutta, where on the 18th of March 1912, I went to inspect it. The Rev. Mr. Gee was kind enough to place before me for examination some other Tibetan MS. Dictionaries, of which I submit here a description.

I. A TIBETAN-ITALIAN VOCABULARY, which is incomplete. The vowels and the first consonant ཀ *ka* are missing. It begins from the letter ཁ *kha* and continues to the letter ས *s*, the last-but-two letter of the Tibetan alphabet. Several holes have been eaten through the paper by insects. It is probable that the dictionary was in its present condition when handed over to Bishop's College. Mrs. Latter wrote of the dictionaries in 1824: "These are considerably damaged by insects, but sufficient remains to form a very complete dictionary."

This MS. is one foot long by 6½ inches broad. It contains 191 leaves or 382 pages, each of about 38 lines. The pages are not numbered, nor are they divided into columns. Each line starts with the Tibetan word in the Tibetan character called དབུ་ཆན་ *Uchhen* (capitals or major letters), in opposition to the དབུ་མེད་ *Umin*, non-capital or minor letters. This latter form of writing is commonly used in familiar correspondence, written conventions and contracts and all other documents of private business, while the former is used by the Lamas in their religious, and by scholars in their scientific books. Next to the Tibetan words we find the Italian translation.

This dictionary is properly a collection of all the sentences which the author could get from native teachers, completed by means of extracts from the *Padma tangyig*, a popular series of legends about Padma Sambhava. Unfortunately the work was left unfinished, and unrevised. Though richer in words than later dictionaries, the work cannot for these reasons be accepted as an authority on any doubtful point.

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[1] Probably a mistake for Patna in R. Jeffrey's letter. Cf. Appendix I.

[2] ANT. GEORGI, *Alphabetum Tibetanum*, p. lviii, (Praefatio): "Lexicon Tibetanum triginta trium millium vocabulorum jacet MSS. in Hospitio P.P. Capuccinorum Neckpal. Magno rebus nostris fuisset usui; sed tam longe abest, ut de eo edendo vix spes una supersit."

[3] HERVAS, *Catalogo delle lingue*, Cesena, 1785, 4°, p. 147: "Nell' ospicio de' P. P. Cappuccini di Nekpal nel Tibet, c'è un dizionario Tibetano MS. il quale contiene trentatre mila parole."

II. But the Bishop's College collection contains also two Italian-Tibetan Dictionaries.

A.—The first is a large volume in quarto, measuring $10\frac{5}{8}'' \times 8\frac{1}{4}''$, strongly bound, and written by several hands on English-made paper. It is well preserved, but is incomplete, as it ends with the letter *S* of the Roman alphabet. The first page gives the following title: DIZIONARIO ITALIANO-TIBETANO, surmounted by the monogram IHS around which we read "Sia Laudato il Santissimo, amabilissimo, amorosissimo e gloriosissimo Nome di Gesu," in flowery style.

Each page is ruled, 22 lines to a page, and is divided into two columns, the first giving the Italian, and the second, the corresponding Tibetan word or words in *Uchhen* characters. This manuscript begins with "*A : articolo dl dativo, ed anche dll' accusativo ed ha molte altri significati*; ཨ. ཏ. ཏྭ. ཏུ. [*la, tha, ta, tu*]." From 1 to 854, the pages are numbered, but leaves 238 and 289 are wrongly marked with 338 and 339 respectively, and then the numbering continues in regular order from 240 till 405, which, though numbered, is blank and is followed by an unnumbered blank leaf; next, the pagination proceeds rightly again from 406 till 776, page 428 being written twice. Sixty unnumbered pages are here inserted out of order from "*scultore*" to "*sapere di certo*," after which the paging goes on regularly from 778 till 854. Then follow 10 blank unnumbered pages and 96 others, written but not numbered, beginning with the letter R and the word "Robbufrufare," till "Santo cioe santo del Paradiso."

B.—The second is a fragment of an Italian-Tibetan vocabulary. It forms the latter part of the above mentioned lexicon and is complete from N to Z, the letters A to L having been completely destroyed or lost. This is obviously the older of the two, not only because it was originally complete, but also because it is throughout written in the same legible handwriting on common Tibetan or Newari paper. It measures $13\frac{1}{2}'' \times 7\frac{1}{2}''$. The MS. is not numbered, but I counted 430 pages, each one containing 34 lines or more, and divided in two columns, the first giving the Italian word, the second next to it the corresponding Tibetan meaning. This fragment begins with the word "Nome d'un religioso di Sciachia-tuba [gang-po]" and ends with "Zufta, quæstione."

The last 12 pages of this MS. comprise the numerals in four distinct columns. The first reproduces the Italian cardinals, uno, duo, etc.; the second and third represent their figures in European and Tibetan types respectively; the fourth contains their Tibetan names. The last two pages give the ordinals from "primo, secondo," etc., up to "centesimo vigesimo primo" with their corresponding Tibetan meanings. The MS. ends with a sort of synoptic paradigm of the notations

of numbers used by the Buddhists or their manner of symbolically expressing numbers.

III. Besides these Tibetan lexicons, there is an Italian-Hindi vocabulary, the work of another Capuchin Friar. Mahamahopadhyaya Haraprasad Shastri in his report on these MSS. (dated 1st April 1911, and addressed to the Hon'ble Mr. J. G. Cumming, I.C.S., Secretary to the Government of Bengal) remarks: "Yet another interesting find is a complete dictionary from Italian to Hindi, much mixed up with Behari and Newari. The Hindi script has a Newari look, and I at first thought that it was Italian to Newari. But the words are mostly Hindi." This MS. measuring $9\frac{3}{8}'' \times 6\frac{1}{2}''$ contains 350 unnumbered pages, each divided in two columns, having 25 or 26 lines to a page, and in each column we have the Italian and Hindi words till page 33, where the first column gives the Italian only and the other the Hindi equivalent. On the first page of this MS. we read: "B. Latter," written by an English hand. The third page of the dictionary begins with *A propozione* को. At the end of this lexicon is an appendix comprising 18 pages, *i.e.*, a vocabulary of proper names of Indian divinities, principal towns, and important personages met with in Hindu books and calling for a more detailed explanation. The heading of it is as follows: "*Nomi propri, e significativi che si trovano nè libri dei gentili dell' Indostano, disposti per lettere di Alfabeto.*" It begins with "Abebe: a brama"; and ends with "Uvia." These words have been arranged in alphabetic order.

Origin of these MSS. and how they found their way into the Bishop's College Library, Calcutta.—From a letter of R. Jeffreys, dated 20th July, 1821, and a note of Mrs. J. Latter, found in the same box as the MSS., copies of which letters are given below, we learn that early in the nineteenth century, Major Latter collected at great cost in India, and particularly in Europe, a large number of works on Oriental literature, "from libraries dissipated in the convulsions subsequent upon the French Revolution." Through a friend he obtained from Bettiah a copy of an Italian-Tibetan dictionary prepared by the Roman Catholic Mission. This Mission laboured for 27 years at Lhasa, during the first half of the eighteenth century, from 1707 to 1745 with two intervals of 4 and 6 years, and then was expelled from Tibet in 1745, when the Capuchins retired to Bettiah with some Nepalese Christians, and settled at Choori, after the conquest of Nepal by the Gurkhas in 1768. Major Latter, it is stated, was fortunate enough to discover another Italian-Tibetan lexicon of which the original was in the Roman Catholic College at Patria [Patna ?], and which he eventually got possession of. In the year 1824, Mrs. T. Latter, to comply with her deceased husband's wish, presented to the Bishop's College Library, Calcutta, all the

MSS. which her husband had willed to some Society, which might use them for the advancement of Oriental learning, and thus they found their way to Calcutta, where little or nothing of their whereabouts was known until January, 1911.[1] The letter, moreover, informs us that the Revd. Mr. Schroeter was first employed by the Church Mission Society and afterwards, in the early years of the nineteenth century, was commissioned by the Government of India to prepare a Tibetan Grammar and a Tibetan Dictionary. Major Barre Latter, being apprehensive lest Mr. Schroeter should be wasting his labour in doing what had already been accomplished by the Roman Catholic Mission, invited him to his house, where Mr. Schroeter compiled his Dictionary, which was in Tibetan-Italian.

Hence, we may reasonably conclude from all that has been said that these Tibetan MS. vocabularies are the labours of the Italian Capuchin Missionaries, and that Mr. Schroeter simply copied them. A German by birth, and commissioned by the East India Company to compile a Tibetan-English lexicon, it is out of the question that he should have composed a Tibetan-Italian Dictionary.[2]

But now arises the question: who among the Italian Capuchin Missionaries is the author of these Tibetan MSS.? To whom amongst them belongs the honour of having been the first European who composed such remarkable works on the Tibetan language?

I dare say, without fear of being contradicted, that the compiler of these Tibetan lexicons is Father Francesco Orazio della Penna, who studied Tibetan at Lhasa for twenty-two years, and who had acquired a very profound knowledge of the

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[1] A P.S. to the letter of R. Jeffreys, however, says that "the Library which I have mentioned above as having been procured in Europe was purchased after Major Latter's decease by the Revd. Mr. Mill for the Library at the Bishop's College." [To reconcile this passage with the text above, let it be remembered that the MSS. in question were donated to the Bishop's College, while the *printed* books and, perhaps, other MSS. were bought by the Rev. Mr. Mill. I sought in vain—as I was led to expect from R. Jeffrey's letter—for printed accounts on the Tibet Missions, but found instead several copies of *Lettres édifiantes et curieuses*, several rare Jesuit Relations on Canada, and a copy of Vincent le Blanc's *Travels* in French, a unique copy in Calcutta.—*H. Hosten, S.J.*]

[2] C. E. Buckland (*Diction. of Indian Biography*, London, 1906, p. 470) gives of Schroeter the following account: "A native of Saxony: prepared for missionary labours under the Rev. John Jaenicke of Berlin: ordained there Aug. 28, 1813: went to England: chosen by the Church Missionary Society to go to India: left England, May 1815, for Ceylon: went *viâ* Colombo to Calcutta, 1816: sent to Titalya, in the plains near Darjeeling, to learn Tibetan, with a view to missionary work in Tibet, but he died in July, 1820: he left MSS. of (1) a Tibetan-English Dictionary (based on an Italian-Tibetan one, composed by Roman-Catholic Missionaries at Lhasa), (2) a supplement to the above, (3) the commencement of an English-Tibetan Dictionary, (4) a Treatise on the Tibet alphabet, (5) heads of a Tibetan Grammar, (6) a Tibet MS. and a part translation."

Tibetan language. If we except the Latin-Tibetan Dictionary referred to above, composed by Fr. Domenico da Fano, about which our Archives are silent, to no other but della Penna is ascribed the honour of having composed Tibetan-Italian and Italian-Tibetan Dictionaries.[1] The Procurator-General of the Capuchins, in a memoir written in 1738 and sent to the Cardinal of the Propaganda, clearly states that among other Tibetan works, Father Orazio "composed a rather voluminous Tibetan-Italian and Italian-Tibetan vocabulary of about thirty-five thousand words."[2] MSS. I and II, B, described above are in Father della Penna's writing.

The compiler of the Italian-Hindi lexicon is doubtless Father Giuseppe Maria de' Bernini da Gargnano, the founder of the flourishing Bettiah Mission, and—however unknown to fame—one of the most learned Orientalists of his time.

A Biographical and Bibliographical Notice of Father Francesco Orazio della Penna.

The Revd. Father Francesco Orazio[3] della Penna de Billi or simply Orazio Pennabilis, officially styled in Rome Horatius Pennabilis, was born in 1680 in the city of Penna di Billi[4] in Monte Feretro (Italy). He started first on his Mission to Tibet on August 25th, 1712, with five of his brethren as missionaries.[5] They landed at Chandernagore, in the beginning of September, 1713. From here they proceeded to Patna in Behar, where a Mission station had been opened in 1706, and where they were welcomed by Father Felice da Montecchio, then Prefect of the Mission. In December 1714,

[1] *Analecta Ordinis*, vol. VI, fasc. XI, November 1890, p. 349.

[2] *Archivio della S. C. de Prop. Fide, Congregazioni Particolari del Tibet*, 1738 al 1752, vol. 112, Fol. 49, n. 6: "Trasportato in dette lingue . . . . un bastante voluminoso vocabulario di circa 35 mila vocaboli con caratteri thibetani ed italiani, ed con italiani e thibetani."

[3] Francis Horace was not his baptismal name as stated by Sir C. R. Markham in his *Narrative of the Mission of George Bogle to Tibet*, p. 309, but the name he took on becoming a Capuchin.—John Christ. Amaduzius in his preface to the *Alphabetum Tangutanum sive Tibetanum* of Cassiano Beligatti da Macerata, p. vii, calls him Horatius Oliverius Pennabilensis. Oliverio may perhaps be his family name.

[4] C. R. Markham, *Op. cit.*, p. lix. says he was born at Macerata, in Italy, in 1680; and p. 309, at Penna di Billi "which is the district where he was born. It is situated in the March of Ancona about 20 miles from Macerata." Keith Johnston's *Gazetteer* places it in a different position, 20 miles W.N.W. of Urbino. So does Virginio Prinzivalli, *Viaggiatori e Missionari nell' Asia*, Torino, 1892, p. 163. "Paese nel circondario di Urbino."

[5] *Arch. Miss. Allahabad*, Mem. A. No. 6, an. 1712.—*Anal. Ord.*, vol. XXI, Fasc. XI, Nov. 1905, p. 344, anh. 1712.—*Acta S. C. de Prop. Fide*, vol. 112, ann. 1738 al 1752, fol. 49, n.1. Their names are P.P. Giuseppe Felice da Morro di Jesi, Giovacchino da Loreto, Paolo Maria da Matelica, Gio. Francesco da Fossombrone and Brother Jacopo da Breno.

Fr. Orazio was despatched to Nepal to open again this abandoned Mission and build a hospice. Here he remained till the arrival of the newly appointed Prefect, Father Domenico da Fano, who arrived in Nepal in 1716, accompanied by Fr. Felice da Morro di Jesi ; after which all three started on their journey to Lhasa, leaving Nepal on the 4th of August of that year, and reaching the capital of Tibet on the 1st of October, 1716. Here they were heartily received by the Jesuit Father Ippolito Desideri, who had travelled thither by way of Kashmir, Leh and over the Mariam-la pass.[1] When Father Domenico da Fano renounced the superiorship of the Mission, Fr. Orazio was nominated in his stead Prefect of the Tibetan Mission in 1720, though his appointment reached him only on the 15th of September, 1725, at Lhasa. In 1725, Orazio blessed the first Catholic Church built in Lhasa under the title of the Assumption of the B. V. Mary. At the opening ceremony, eleven Christians, mostly Newari natives of Nepal, were present. Constantly the victim of serious indispositions contracted from the rigorous inclemencies of the Tibetan climate, his indefatigable labours, infirmities, contradictions, persecutions, the discomforts of intestine wars, and other troubles which had reduced him to the verge of death, obliged him finally to leave Lhasa for the milder climate of Nepal. He left the capital of Tibet on the 25th August, 1732, to the great regret of King Mi-Vagn, who allowed him to go only on a formal promise to return.

Provided with a free pass from the faithful King Mi-Vagn, which procured him supplies and baggage-transit throughout the route, della Penna travelled *viâ* Palte, Gyangtse and Dingri to Kuti, and so at last reached the capital of Nepal. No sooner had he alighted in Khatmandu, worn out with fatigue and illness, than the king there cast him into prison, where he remained confined for several weeks. Having been released, Fr. Orazio went to Rome to explain orally to the Roman authorities the wants of his Mission, and the necessity of sending out new missionaries. The missionaries there were now reduced to three: "one who had been a missionary for 17 years and was now weak, ailing and unable to work; another had served 22 years in that mission, was 77 years old and blind of one eye; and the third, the Father Prefect, had completed 25 years of service out in those parts."

The representations of Orazio della Penna proved marvellously successful with the authorities at the Vatican. Accordingly in October 1738, Orazio, in the same capacity of Prefect, left Rome for Paris and the East with ten Capuchin brethren. The little band of missionaries set sail from Lorient on

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[1] C. Puini, *Il Tibet*, etc., pp. xlix, l, lii ; *ibid.*, Letter of Fr. Desideri, dated Lhasa, 15 Febr. 1717, p. 372.

March 11, 1739, on three different ships. The narrative of this journey was written by Cassiano Beligatti, and the MS. of 203 octavo pages was discovered by Professor Alberto Magnaghi, who published it at Florence in 1902, in the fascicles of the *Revista Geografica Italiana*.

The party were not re-united until they arrived in Calcutta on September 23rd, sailing thence together up the Hugli to Chandernagore on September 26th, where they landed, six months and 18 days after they had embarked at Lorient. They reached Patna on December 16, 1739, where they met Fr. Giovacchino da San Anatolia. Leaving three of the brethren in Patna, a party of eight, including Giovacchino, continued the journey towards Nepal. On February 6, 1740, they reached Batgao, where the 'king of Batgao' welcomed them 'con somma famigliarita.' On October 1st, 1740, the king of Khatmandu allowed them to depart. They arrived at Kuti, on the Tibetan frontier, on October 17, and reached Lhasa on January 6, 1741.

When in 1742 a severe persecution broke out at Lhasa against the missionaries and the newly converted Tibetans, it was decided to reduce the staff to four and to send the other three back into Nepal. Though the efforts of the missionaries did not relent, their influence continued to wane. Reluctantly Orazio made up his mind that the time had arrived to abandon the work. The date of his departure and of the conclusion of the Capuchin mission in Lhasa was April 20, 1745. The sad little party crossed the frontier in safety and reached the mission hospice at Patan in Nepal on the 4th of June. Some six weeks later, namely on July 20, 1745, the broken-hearted Orazio della Penna, Prefect of the Tibet Mission, breathed his last, aged 65 years, 33 of which he had been a missionary, and 22 of which he had spent in Tibet. He was buried in the little Christian cemetery then existing at Patan, situated to the North outside the walls, and the following sorrowful inscription in Latin was placed over his grave :—

A.R.P. FRANCISCVS HORATIVS A PENNA BILLORVM
PICENAE PROVINCIAE CAPVCCINORUM ALVMNVS.
MDCLXXX NATVS
INFIDELIVM CONVERSIONES OPTANS
A S.C.P.F. AD TIBETI MISSIONES MISSVS
XXXIII. AN. INTER INFIDELES VERSATVS
XX. EISDEM MISSIONIBVS PRÆFVIT
TANDEM
SENIO AC MORBO CONFECTVS ET MERITIS CVMVLATVS
LXV. AN. AGENS SECESSIT E VIVIS
XX. JVLII MDCCXLVII.[1]
SUPERSTITES MISSIONARII
M. H. P.
A. M. D. G.

[1] Paolino, *India Or. Christ.*, p. 194, n° 3, and A. Georgi, *Alph. Tib.*, p. 435, erroneously state that he died on July 20, 1747. See *Arch.*

The Brahman Balgobinda, the Fathers' professor in the vernacular languages, had a Newari epitaph cut on his tombstone, to this effect: 'In the year 865 [Newari era], Akha cycle the 8th, on the 6th moon of the month Agan, the renowned Faranghi Father Franciscus Horatius, who stayed 33 years in those parts, preaching the most high Law of God, finally died in the city of Patan.''

His Literary Works.

Father Orazio della Penna applied himself during more than four years to the study of Tibetan, both the common and the literary language, and mastered it to perfection, in spite of its difficulties, under the direction of a Tibetan Doctor of the Serra University, called Rabgiamba-Jontemppehl-Szang. This man had been appointed to the task by the old king Ginghir-Khagn, a Tartar, who reigned over Tibet in 1716 and was treacherously killed in 1717.[1]

Carlo Puini [2] says: "Fathers Cassiano Beligatti and Orazio della Penna were, as Ant. Georgi himself acknowledges,[3] the chief collaborators in the compilation of his voluminous work entitled '*Alphabetum Tibetanum*. Romae, 1762.' But the most noteworthy of the Lhasa Missionaries, who in Europe acquired the greatest renown amongst Orientalists, was Fr. Francesco Orazio della Penna di Billi. The labours of Desideri being then unknown, he was considered to have been among the first who opened the way to the studies on Tibet and to the Tibetan language and literature. Besides his writings which were used, as I said, to compose the work of Georgi, he wrote a rather important Memoir entitled "*Breve Notizia del Regno del Tibet*" published by Klaproth in 1834,[4] and afterwards translated into many other languages, which remained for a long time the most authoritative document regarding the geography and customs, government and religion of that country."

In 1738, Orazio wrote an account of the Capuchin Mission to Lhasa under the title "*Relazione del principio e stato presente della Missione del vasto regno del gran Tibet, ed altri due regni confinanti, raccommandata alla vigilanza e zelo de'*

Miss. Allahabad, Materialia, n° 11, 1745.—*Anal. Ord.*, vol. XXI, Nov. 1905, p. 344, ann. 1712.—*Ibid.*, 'Series Præfectorum,' ann. 1721 & 1738.—Beligatti's *Memorie*, c. X, p. 46.

[1] *Acta S.C.P.F.*, vol. 112, ann. 1738, fol. 49, n. 4.

[2] *Il Tibet, op. cit.*, pp. liv – lv.

[3] *Alph. Tib.*, p. 559, VI.

[4] *Nouveau Journal Asiatique*, 2e série, xiv, p. 177. An English translation may be found in C. R. Markham's *Tibet, Bogle and Manning*. A French translation was inserted in the *Nouvelle Bibliothèque ou l'Histoire littéraire*, tom. XIV, and in the *Histoire générale des Voyages*, tom. VII, Paris, 1749.

Padri Cappuccini della Marca nello Stato della Chiesa, Roma, Antonio Rossi, 1742, in 4°, pag. 12.[1]

Another account on the same mission is entitled: "*Alla Sagra Congregazione de Propaganda Fide deputata sopra la missione del gran Thibet, rappresentanza de Padri Cappuccini Missionarj, dello stato presente della medesima, e de' provvedimenti per mantenerla ed accrescerla,*" 1738, pp. 55. D. D. Philip de Montibus, Secretary to the Sacred Congregation, published it in 1738 and Father Emericus Berlacensis translated it into German and published it in 1740 under the following lengthy title: MISSIO APOSTOLICA, THIBETANO-SERAPHICA. *Das ist neue durch Päbstlichen Gewalt in dem Grossem Thibetanischen Reich, von denen P.P. Capucineren aufgerichtete Mission, und über solche von R. P. Francisco Horatio della Penna, Præfecto Missionis, der heil. Congregation de Propaganda Fide, Anno* 1738.

Beschehene Vorstellung von Rmo, & Illustmo D. D. Philippo de Montibus, dermahligen S. Congregat. Secretario in Rom, zum offentlichen Druck beforderet, hinnach allen des Catholischen Glaubens eyfrigen Seelen zu Lieb, aus dem Welschen in das Teutsche und dise Geschichts Form übersetzet.

Von F. E. C. I. einem Priester Capuc. Ord. der Chur Bayrischen Provinz. München. Gedruckt und zu finden bey Johann Jacob Völter. Anno 1740.

Besides the two accounts above there are several *Relazioni* on the geography, religion, and literature of Tibet, preserved in the Archives of the Propaganda, vol. 112. It is from these that the above book of Emericus was compiled.

Virginio Prinzivalli[2] and Amato di S. Filippo[3] state that "during Fr. Orazio's stay in Rome in 1738, and under his supervision, the first Tibetan types were engraved by Anthony Fontarita and used by the Propaganda to print their books in that language." Orazio on his return to Lhasa, brought with him a press with Tibetan type. "We owe him," continues Prinzivalli, "an Italian translation of several Tibetan books on the origin of Lamaism, its theology, rites and ceremonies."

The following is a list of his literary works.[4] He translated from the Tibetan into Italian:—

I. SCIACHIA-TUM-BE NAMTAR, or the history of Sakya-tuba, the restorer of the fallen law and founder of Lamaism.

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[1] An abridged French translation was inserted in T. XIV of the *Nouvelle Bibliothèque, ou Histoire littéraire*, and an English version of it in vol. IV of THOM. ASTLEY'S *Voyages and Travels*, pp. 658-664.

[2] *Viaggiatori e Missionari nell Asia*, Torino, Ermanno Loescher, 1892, p. 163.

[3] *Illustri Vinggiatori italiani.*

[4] *Acta S.C.P.F.*, 1738–1752, vol. 112, fol. 49, nos. 1, 6, 7, 11, 50.—*Anal. Ordinis*, vol. VI, fasc. XI, ann. 1890, p. 349, X.

II. LAM-RIM-CHEMBO, i.e., the three great ways which gradually lead to perfection.

III. CHIAP-SU-DROVA, or spiritual means to be practised. It refers to a Tibetan God.

IV. SOZOR-THARBE-DO', a rule or method to avoid the many transmigrations.

V. Several minor works of less importance.

He rendered from the Italian into Tibetan:

VI. The *Christian Doctrine* of Bellarmine, augmented and explained by examples.

VII. The large *Catechism* of Thurlot with additions.

VIII. Several minor works on the Christian religion.

IX. He composed a vocabulary, Italian-Tibetan, and Tibeto-Italian of 35,000 words.

These important labours of della Penna prove that he was a man who had acquired a very deep knowledge of the Tibetan language. His memory will ever remain dear to the friends of religion and science. An unhappy event prevented the publication of his works. He was obliged to quit Lhasa and Tibet, and leave behind on his departure the press and its Tibetan types.

To limit myself to the Tibetan MSS. preserved in Bishop's College, I dare to say that they tend to the honour of Fr. Orazio, and recommend themselves eminently to the attention of the erudite in general and of the Italian Orientalists in particular. They prove conclusively that this enterprising missionary was a Tibetan scholar. It required, we must admit, a profound knowledge of Tibetan to find in it equivalents to nearly all the words of the Italian language. The MSS. often offer the curious peculiarities, the idiomatic turns of Tibetan phraseology. The interesting discovery of these MSS. increases our admiration for the zeal, the courage above all trials, and the noble perseverance of the Italian Capuchin Missionaries in Tibet. In addition to the titles which della Penna had long since to the veneration of all Catholics, he now acquires a right to the gratitude of learned Indianists which will not be disputed.

A HISTORICAL AND BIBLIOGRAPHICAL NOTICE OF FATHER GIUSEPPE MARIA DE' BERNINI DA GARGNANO.

Bernardine was born on September 2, 1709, at Gargnano, a conspicuous and populous town, situated in the Riviera del Benacese Lago, commonly called Riviera, in the diocese of Brescia. His father was Count de' Bernini, his mother Countess Joanna de' Bettoni. When nine years old, he was taken with his younger brother to Vienna, to the house of his uncle, Count Girolamo, who took great care to educate the two youths in all the branches of science. On May 9, 1726, Bernardine entered the Capuchin order and took the name of

Giuseppe Maria. In 1738, when in Rome, he asked and obtained leave to accompany the missionaries then ready to start for Tibet under the guidance of Orazio della Penna. They sailed from Lorient on March 11, 1739. During the six months' voyage, Bernini endeared himself to all, particularly to the French officers and the crew. On his landing at Pondichery, the French authorities of the town begged of him to stay and to attend to the spiritual wants of the Christian community; but a missionary is like a soldier: he does not reason, he only obeys. He left for the mission he was sent out to, and was posted at Patna. Knowing French, Portuguese and German to perfection, he made himself useful to the Europeans of various nationalities who had factories in that city, converting many heretics and baptizing many children.

The fame of Father Joseph's virtues and holy life was so great that the king of Bettiah, though a Brahman, on a visit to Patna, grew so fond of him that he wrote to the Sovereign Pontiff to have him as a missionary in his kingdom. In January, 1742, Father Joseph left Patna on his way to Lhasa. He halted a few days at Bettiah to please the king and queen. Thence, he proceeded to Khatmandu in Nepal, where he obtained the king's leave to travel through his realm, and, marching in the company of some Nepalese merchants, he reached Kuti, on the border of Tibet, after fifteen days of a most trying and difficult journey. Here he engaged a certain native, whom he calls Zughi, and who knew a little Hindustani, and both started on their perilous journey to Lhasa. The physical difficulties he met with, and the anxieties which he endured during a journey of 45 days performed on foot, without supplies and with no knowledge of the country and its language, are not easily realized in these days of comfortable travelling. He entered Lhasa on May 27, 1742, a few days after the persecution against the Missionaries and the Tibetan converts had broken out. Here he stayed till the breaking up of the Lhasa Mission on April 20, 1745, and was appointed to open the new Mission in Bettiah. On his arrival there in December 1745, he was most courteously welcomed by the king, who granted him for his residence a large house situated near the palace. He is the founder of the Bettiah Mission, in which he laboured for 15 years, dying at Bettiah on January 15, 1761, to the great regret of his neophytes, who held him in great repute of sanctity. His memory is still alive to-day among the Christians of the place. Father Cassiano Beligatti, who was his fellow-labourer for several years, wrote and published his biography; *Memorie istoriche delle virtù, viaggj, e fatiche del P. Giuseppe Maria de' Bernini da Gargnano, Cappuccino della Provincia di Brescia, e Vice Præfetto delle Missioni del Tibet, scritte ad un amico dal* P. CASSIANO DA MACERATA, etc. Verona, 1767, 8vo, pp. xxxii—277.

The list of his literary works will show that he was no mean Oriental scholar for his time.

I. Unable to get at the Vedas, which were jealously kept secret by the Brahmans, Father Giuseppe Maria, to fight the Brahmans with their own weapons, thoroughly studied their language and transiated into Italian their sacred codex: '*Addi atma Ramahen*' [Rāmāyaṇa]. This work is divided into seven books, which are again subdivided into chapters, and bound into three volumes, corresponding to the three principal parts or periods in the life of Rama.

II. He rendered into Italian another voluminous codex, named *Lhalece* (?), in which are described Vishnu's eight *avatāras* or incarnations, the fourth in human form being that of Krishna, to deliver mankind from the tyranny of the giant Kans.

III. He made also an Italian version of the *Vishnu Purana*, which treats of Vishnu, and of his various incarnations.

IV. Our Missionary also translated the *Giansagr* [Jñānasāgara] or "Sea of wisdom," which treats of the creation of the world, and the precepts of the Law.

V. He translated several other Indian books of minor size, which refer to the geography of the country, the religion, fasts, feasts, and ceremonies of the Hindus.

VI. He composed a dialogue between a Christian and a Brahman, to prove the truth of the Catholic religion.

VII. Another dialogue, in which he introduces a Christian instructing a Brahman in the Catholic belief, was written to confound the Brahmans who had excused themselves to the king of Bettiah for not replying to the first dialogue, by saying that they did not know the Christian religion.

VIII. He composed also a Catechism of the Christian Doctrine for the use of the people, with prayers and spiritual exercises.

IX. A book of devout exercises, to increase the piety of his new converts. This book contains, besides the morning and evening prayers, a preparation for Confession, and pious considerations before and after H. Communion.

X. Several other minor works for the use of the catechumens and the new converts.

XI. He translated into the native tongue the 'Exposition of the Faith' by Bishop Bossuet, and also his 'Life of Our Lord Jesus Christ,' which he made more diffuse than the original.

XII. He compiled a voluminous vocabulary in three languages—Indostano-Latino-Italiano, and another Indostano-Italiano.

REFERENCES.—FATHER CASSIANO'S *Memorie istoriche*, Op. cit.—*Relazioni MSS. de* P. CASSIANO DA MACERATA, *e del* P.

SANTI DA LIZZANO, *Cap., esistente nella biblioteca conventuale di Bergamo.—Cronologia della Provincia.*—P. GIOVANNI DA RATISBONA, p. 26.—BRUNATI, *Dizionarietto*, p. 28.—P. PAULINO A S. BARTHOLOMÆO, *India Orient. Christ.*, Romae, 1794, p. 193: "In regno Bengala et Nepal, illustres viri ex Ord. Capucinorum sunt: I. R. P. Josephus a Carignano, cujus dialogi lingua indostana conscripti et Regi Bettiah dedicati exstant in Bibl. S.C. de Prop. Fide. num. XXIII."—*Anal. Ord*, vol. VI, ann. 1890, fasc. XI, nov., p. 349, XI.—VIRGINIO PRINZIVALLI, *Viaggiatori*, etc., p. 164.—ROCCO DA CESINALE, *Storia delle Missioni dei Cappuccini*, T. iii, pp. 274-5, 742.

APPENDIX.

Amongst the Bishop's College collection there are the two following letters:—

I.

19, GLOUCESTER PLACE, NEW ROAD.
The 20th July 1824.

SIR,

The widow of the late Major Barre Latter of Bengal has in her possession a valuable collection of Tibet works, partly manuscripts and partly specimens of block-printing of the natives, of great antiquity. They were procured chiefly for the purpose of affording the Rev. Mr. Schroeter, who was employed first by the Church Mission Society and afterwards by the Government of India, but who resided in Major Latter's house, the means of acquiring the knowledge of that language.

Major Latter being apprehensive lest Mr. Schroeter should be wasting his labour in doing what had already been accomplished by the Roman Catholic Mission, who had been in Thibet many years before, caused a diligent search to be made in different libraries in Europe to ascertain how much had been effected. The inquiry was conducted by a very judicious person at a period very favourable for the purpose, when so many libraries were dissipated in the convulsions consequent upon the French Revolution, and several hundred pounds were expended in procuring books which contained an account of all the missionary efforts of the propaganda and were forwarded to Major Latter in India. In some of these works the whole of their exertions in Tibet are accurately recorded,[1] by which it appeared that nothing had been done by them except the composing of a treatise on the alphabet, which had been

[1] [No historical books on the Jesuit or Capuchin Missions in Tibet can be found in Bishop's College except the *Lettres Édifiantes*, and some of the linguistic efforts of the Propaganda Press, and these contain almost nothing.—*H. Hosten, S.J.*]

printed and was well known in Europe, and also a dictionary, the only two existing copies of which were in manuscript in India. One of these copies a friend of Major Latter had already sent him, having obtained it from Bettiah, to which place the Roman Catholic Mission retreated after their expulsion from Thibet, and the other, which was the original, Major Latter was fortunate enough to discover himself in the Roman Catholic College, Patria.[1] From this dictionary, which is Italian and Tibetan, Mr. Schroeter compiled his treatise which is Italian-English and Tibetan. This, with a grammar which he did not live to complete, was transmitted to the Government of India whose property they were. But in consideration of the great assistance afforded to the undertaking by Major Latter, the Government has promised that a copy of these shall be presented to his widow. Major Latter, by will, desired that the Thibet works, in reference to which I now address you, should be presented to some society where they might most tend to the advancement of Literature and Religion. In consequence of which Mrs. Latter having consulted with [?] has decided that this end will be best accomplished by placing them in the Bishop's College at Calcutta for the use of students in the language, and is willing to present them to the Society for propagating the Gospel in foreign parts, if that Society will engage to forward them to Bengal for that purpose. You will have the goodness to represent this proposition of Mrs. Latter's to the Society and let me have their answer at your leisure.

I have the honour to be,
Sir,
Your most obedient servant,
R. JEFFREYS.

P.S.—The Library which I have mentioned above as having been procured in Europe was purchased after Major Latter's decease by the Rev. Mr. Mill for the Library at the Bishop's College.

II.

Note.

I found it impossible to make anything like an inventory of this collection, but shall be happy to present them to the Society for the Propagation of the Gospel in foreign parts if they will engage to forward them to the Rev. Mr. Mill for the use of the college founded by the late Bishop of Calcutta. The collection chiefly consists of manuscripts and printed books in the Tibetan language. Some are works on their mythology, others elementary works used by them for the study of the

[1] "The word might be Patna in the original. It is quite possible to read it so, not Patria."—*The Rev. R. Gee to Fr. H. Hosten.*

languages in their colleges and schools, and were obtained by Major Latter from Tibet at a considerable expense. There are also dictionaries, Italian and Tibetan and Thibetan and Italian, compiled by the Roman Catholic Mission during twenty years' residence at Lhassah. These are considerably damaged by insects, but sufficient remains to form a very complete dictionary. The one in a black leather cover only extends as far as the letter S, but the dictionary of which it appears to be a fair copy forms part of the collection and is complete to the end. There were parts of two grammars of which I had copies compiled by the Rev. Mr. Schroeter, but from not being able to find them I conclude I have accidentally forwarded them to the Government in Bengal, with such parts of the collection as belonged to them. This, however, is immaterial as that Government has promised to present me with a complete copy of the late Mr. Schroeter's Thibet papers consisting of a voluminous dictionary Thibetan and English, the greater part of a grammar, a new and correct treatise on the alphabet by Mr. Schroeter, etc.

Should it be agreeable to the Society to forward this trunk of papers to Calcutta, I will immediately send out instructions for the above copy when made to be likewise presented to the Bishop's College, forming altogether a most complete collection for the attainment of the language of Thibet. In the large quarto ruled books there is a commencement of a copy of Mr. Schroeter's dictionary;[1] from this an idea may be formed of the original, which, as I have stated, is in the possession of the Bengal Government. I have purposely sent a camphor-wood trunk as it is a preservative from insects, and would strongly recommend the papers being sent out and always kept in it.

(Sd.) J. LATTER.

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[1] These consist of two large quarto-ruled books still preserved in the College Library. The first part is in three languages—Tibetan, Italian and English. It begins with the letter ཀ ka, word: "Drappo di Lino = Linen cloaths," and ends with the letter ཏ, tsa, word: "Tumulto = a tumult, a great noise, an uproar, a bustle or stir." Till here we find the words in the three languages, but the MS. continues again with the Tibetan words alone, letter ཚ, thsa; from word ཚང་གེས་སྐྱ་བ། to རྡོད་དྲུག་བཅོ། The second part is also a trilingual dictionary which begins with the letter ས, s of the Tibetan alphabet, but instead of the Italian we find the Bengali meaning. The first word of this part is "སངས་རྒྱས། = God, three times" = ত্রিঃকঃ. It ends with the Tibetan letter ཇ, or j, the last word being རྨིག་བྱ་ = bird. Of this letter there are only three words.

Note.

Papers placed in the hands of Mr. Manning by permission of the India Committee forming part of the Tibetan collection. To be returned on demand, Dissertation on Tibetan Alphabet by T. D. Schroeter.

(Sd.) Thomas Manning,
21*st March*, 1825.

Sir George Tulhill,
19 Cavendish Square.

40. On a New Series of the Double Sulphates of Barium with the Sulphates of the Substituted Ammonium Bases. Part I.

By Rasik Lal Datta and Haridas Sen.

Barium sulphate is always held to be a most refractory and insoluble substance, and it has thus not as yet been found to combine with any other salts. It does not decompose even in the presence of strong acids. It is for this reason that in the analysis of sulphates in inorganic as well as organic substances the radicle SO_4 is estimated in this form. When estimating the total sulphate in the sulphates of the substituted ammonium bases, however, it was found that the precipitates obtained by adding a very dilute solution of barium chloride to a comparatively concentrated solution of the above sulphates, instead of being of a heavy white amorphous nature like that of barium sulphate, were distinctly granulated in form. When the carefully washed and dried precipitate was ignited, fumes with the characteristic odour of the ammonium bases were evolved leaving a charred mass behind. On further heating with a drop of strong sulphuric acid the residue ultimately became white. The possibility of the existence of the double sulphates of barium with the sulphates of the substituted ammonium bases was thus suspected. If, on the other hand, a large excess of barium chloride be added to a solution of the sulphate of the organic base and boiled for a few minutes, such compounds rapidly dissociate, resulting in the total separation of the sulphate as barium sulphate. This is very likely the reason why such compounds have hitherto escaped isolation. The reaction evidently takes place according to the following equation, M representing mono-acid bases.

$$n.M_2H_2SO_4 + n.BaCl_2 = 2nM,HCl + n.BaSO_4$$

$$n.BaSO_4 + M_2H_2SO_4 = M_2H_2SO_4,\ n.BaSO_4.$$

Summing up the two equations

$$(n+1)M_2H_2SO_4 + n.BaCl_2 = M_2H_2SO_4.nBaSO_4 + 2nM.HCl.$$

1. Pyridine Barium Sulphate.

$$(C_5H_5N)_2H_2SO_4.2BaSO_4.$$

5 c.c. of a strong solution of barium chloride was gradually added to 30 c.c. of a concentrated solution of exactly neu-

tral pyridine sulphate. Pyridine sulphate was for this purpose prepared by mixing molecular proportions of pyridine and strong sulphuric acid of sp. gr. 1·8, concentrating the mixture on a waterbath and leaving in a desiccator over night when it solidifies *en masse*. A flocculent precipitate appeared on the addition of barium chloride solution to pyridine sulphate solution in the above manner, which was allowed to settle till the supernatant liquid was clear. The liquid was decanted off and the residue was washed with cold water and finally dried in a desiccator. The dry substance is of a fine granulated structure. It is very deliquescent like the parent substance pyridine sulphate. When treated with water it rapidly dissociates into barium sulphate and pyridine sulphate. On analysis it was found to have the composition $(C_5H_5N)_2H_2SO_4$, $2BaSO_4$.

0·1448 grms. gave 0·0926 grms. of $BaSO_4$—p.c. of $BaSO_4$ 63·86 Calc. for $(C_5H_5N)_2H_2SO_4$, $2BaSO_4$ p.c. of $BaSO_4$ 64·54.

2. *Quinoline Barium Sulphate.*

$$(C_9H_7N)_2H_2SO_4.2BaSO_4.$$

This compound has been prepared by a similar method. It is deliquescent, but less so than the former one. Results of analysis are given below:

0·0256 grms. gave 0·0144 grms. of $BaSO_4$—p.c. of $BaSO_4$ 56·25 Calc. for $(C_9H_7N)_2H_2SO_4$, $2BaSO_4$ p.c. of $BaSO_4$ 56·69.

3. *Piperazine Barium Sulphate.*

$$C_4H_{10}N_2\ H_2SO_4.5BaSO_4.$$

It has been found that the precipitate is of a more definite crystalline structure, if the base remains in excess in the solution. This compound is the first of the cyclic imido compounds of the series. The formula of the compound, as is shown, is different from the previous ones. It is not so deliquescent as the other two mentioned above. On analysis, the substance gave for

0·0560 grms., 0·0480 grms. of $BaSO_4$—p.c. of $BaSO_4$ 85·91 Calc. for $C_4H_{10}N_2\ H_2SO_4.5BaSO_4$ p.c. of $BaSO_4$ 86·35.

We are at present engaged in preparing the homologues of the series by the above method of double decomposition. We have found indications that similar double sulphates with alkaloids also exist.

We avail ourselves of this opportunity of expressing our thanks to Professor P. C. Rây for the interest he has taken in this investigation.

CHEMICAL LABORATORY,
Presidency College, November 1912.

41. On a Crystallized Slag from Kulti.

By Hem Chandra Das-Gupta.

In 1909, with the kind permission of the authorities at Kulti (near Barakar), I had an opportunity of revisiting the iron works of the place, in charge of a party of students from the Presidency College, Calcutta While going round the works, for a description of which we are indebted to Sir Thomas Holland and Dr. Fermor,[1] I came across a few bits of slag lying here and there and these on a subsequent microscopical examination, in the College Laboratory, appeared to consist of a few crystals in a glassy base. The manager of the iron works was requested to send a few samples of slags and he very kindly sent me three different specimens representing three different types. All of them are scoriaceous though the degree is variable; there is also a difference in colour, one being black, another light blue, while the third one is light grey. The black one was neglected as it was extremely scoriaceous and there was no trace of any crystallized structure. The blue specimen is less scoriaceous than the grey one and both of them gelatinize in hydrochloric acid.

Thin slices of these slags, when examined with a petrological microscope, reveal a number of crystals of different sizes and shapes embedded in a vitreous groundmass. Many of the crystals are rectangular, while there are some whose shape roughly recalls that of a triaxial siliceous spicule of a sponge. The crystals all extinguish straight and are uniaxial with a prominent blue polarisation colour. Some of the rectangular crystals are diagonally divided in four quadrants; opposite quadrants have usually the same polarisation colour, and these colours are white and blue. This difference in colour becomes very remarkable when examined with a sensitive quartz-plate, the quadrants showing pink and blue.

A number of crystals (e.g. fayalite[2], mica[3]) have already been described from crystallized slags obtained at iron-works, and among these there is one described by Fouqué from the furnace at Saint Nazaire[4] which is interesting from our present point of view. Besides publishing a chemical analysis of the substance, to which attention will be drawn later on. Fouqué

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[1] Rec. Geol. Surv. Ind., Vol. 39, pp. 101-106.

[2] Journal Iron and Steel Inst., 1889 (No. II), p. 412; op. cit. 1895, (No. I), p. 436.

[3] Op. cit. 1889 (No. II), p. 412.

[4] Bull. Soc. Min., t. ix, pp. 287-293.

has also given us an account of the behaviour of the crystals under the microscope, and it is quite clear that the crystals of the two slags behave similarly. In this connection the following may be quoted:—

"Les secteurs opposés se colorent de la même manière, mais présentent une nuance différente de celle des deux autres. La superposition d'une lame de quartz parallèle à teinte sensible accentue la différence; deux des secteurs la font virer vers le bleu, les deux autres la font virer vers le jaune.[1]" A similar behaviour has also been observed in the Kulti slag, as noted before. It may be pointed out here that though Fouqué brought out the very close relationship of these crystals with melilite, he refrained from identifying them with this mineral on account of the difference in optical sign. But it is now known that the optical character of the mineral may be either positive or negative, and accordingly there can be no reasonable doubt that Fouqué was actually dealing with crystals of melilite, and further that in the crystals of the Kulti slag we have evidence of the presence of the same mineral.[2]

The specific gravity of the Kulti slag is 2·88; its hardness is rather variable, some portions can be scratched by the penknife, while sharp edges can also be obtained which leave faint impressions on glass.

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[1] Op. cit., p. 290.

[2] The above conclusion is further corroborated by the chemical analysis of these two slags undertaken in the Chemical Laboratory of the Presidency College under the kind supervision of Prof. Chandra Bhusan Bhaduri. The results of the two analyses are given below and along with them, for comparison, the analysis of the crystallized material described by Fouqué.

	I	II	St. Nazaire
SiO_2,	37·76	38·06	37·60
Fe_2O_3,	1·9-	6·28	trace
Al_2O_3,	13·28	11·10	12·26
CaO,	41·31	40·63	40·11
MgO,	4·50	2·98	9·33
Alkali,	1·45	trace	trace
	100·28	99·05	99·30

42. Preliminary Account of a revised Classification of Indo-Australian Passalidae.[1]

By F. H. Gravely, M.Sc.,
Assistant Superintendent, Indian Museum.

Shortly before he started on the journey to Central Asia from which he never returned, Dr. Stoliczka published in the Journal of this Society "A Contribution towards a Monograph of the Indian Passalidae" based on material in the collection of the Indian Museum, much of which he was himself instrumental in bringing together. In this paper he purposely refrained from any extensive criticism of the curious system of classification in groups of five which Kaup had applied to the family in 1871, reserving such criticism for a future paper to be written when his journey to Central Asia was over.

Since then Kaup's system of classification has been greatly modified and extended by Kuwert, whose "Passaliden dichotomisch bearbeitet" was posthumously published in parts during the years 1896-8. Kuwert's work does not appear to have received its final revision before its author's death and consequently is in many ways unsatisfactory; in addition to which the Indo-Australian species at least seem to lend themselves to an arrangement more natural than the one adopted by him, as has already been pointed out in some instances by Zang and by Arrow.

I have recently been occupied in revising Stoliczka's work on the Indian Museum Collection of Passalidae in the light of more recent papers, and have also been working out the material that has accumulated since his death. Kuwert's imperfectly finished work, valuable though it is as the most complete account of the family that we possess, has rendered this in some respects exceedingly difficult; and I have been compelled to go in considerable detail into the question of the classification of the whole Indo-Australian section of the family. For this purpose collections have been sent to me from museums in Borneo and Ceylon as well as from those in India; and I have received considerable help from individual collectors as well—all of which assistance will be more fully acknowledged in a paper of wider scope than the present, which I am now completing, and which will be published later in the "Memoirs of the Indian Museum." The object of the present communication is to give a brief summary

[1] Published by permission of the Trustees of the Indian Museum.

of the revised system of classification that I have found it necessary to adopt.

The Passalidae inhabiting the Indo-Australian region all fall into one or other of two groups which may conveniently be termed the first and second sections of the family. The first of these groups contains the Aulacocyclinae of Kuwert, and with these, as Arrow has pointed out, must be classed the genera *Cylindrocaulus* and *Auritulus*. In only one of the genera included by Kuwert in the Aulacocyclinae are movable teeth present on the mandibles so far as my observations go. This is the genus *Ceracupes*, which differs markedly in other respects also from the rest of the genera with which Kuwert associated it, and is in some respects transitional between these and the genera *Cylindrocaulus* and *Auritulus*. If these two genera should also prove to be possessed of movable teeth, it will perhaps be convenient to group them with *Ceracupes* as a sub-family distinct from *Aulacocyclus* and its allies; but for the present at least it seems best to regard this section of the family as containing one sub-family only to which the name Aulacocyclinae must be applied.

The second section of the family as found in the region under consideration can conveniently be divided into five sub-families. The first contains only the one genus *Pleurarius*, which is distinguished among other characters by combining the presence of only three well-developed antennal lamellae with the presence of only one pair of processes of the anterior margin of the head between the ends of the supra-orbital ridges. For this sub-family the name Pleurariinae must obviously be used.

The next sub-family may be called the Aceraiinae and includes all the remaining species in which true lateral scars are absent from the mentum. With the single exception of *Epilaches*[1] *infantilis* whose grouping with a scarless form will probably, I think, prove to be one of Kuwert's many little errors, and of *Aceraius prosternisulcatus* (? = *grandis*) which may perhaps have been recorded from Molucca in error for Malacca, this sub-family is confined to the Oriental region as bounded on the east by Wallace's Line; and it occurs in every part of this region inhabited by Passalids of any kind except perhaps the Andamans and Nicobars[2] It shows very nicely the close relationship which may be found between symmetrical and asymmetrical forms. In Ceylon we have the symmetrical genus *Episphenus* and the commoner and slightly asymmetrical

[1] Kuwert has transposed the generic names *Epilaches* and *Analaches* in his "passaliden dichotomisch Bearbeitet."

[2] Redtenbacher's *Aceraius nikobaricus* appears to me to be founded on an artifact having the hind parts of an *Aceraius* and the fore parts of a *Tiberius*.

genus *Chilomazus*.[1] In the Indian Peninsula, the E. Himalayas, and parts of Assam, there is the strongly asymmetrical genus *Basilianus* in which the supra-orbital ridges are however always symmetrical; and in the whole area between and including the E. Himalayas and Borneo is the genus *Aceraius* (in which *Heterochilus*, Kuwert, may be merged) the dominant species of which (*A. grandis*, with *palawanus* and *hirsutus*[2] as sub-species) has the supra-orbital ridges produced forwards, especially in small specimens, in such a way that the extent of their asymmetry is often almost greater than that of the marginal processes between them. In addition to these genera a new genus *Tiberioides*, more closely allied to *Episphenus* than to any other and differing from it only in having the frontal horns closer together, must be established here for two Assamese forms hitherto known respectively as *Tiberius kuwerti* (=*cancrus*, auct.) and *Chilomazus borealis*; and the monospecific Malaysian genus *Ophrygonius*, Zang, must be mentioned as apparently allied especially to *Basilanus*. The inclusion of the genus *Chilomazus* in this sub-family calls for special comment on account of its association by Kuwert with genera in which lateral scars are present on the mentum. The so-called scars on the mentum of *Chilomazus* appear to me, however, to be homologous with the depressions of the middle of the anterior margin of the mentum found in the genera *Basilianus* and *Ophrygonius* and in certain species of *Aceraius* rather than with true lateral scars; and this view is supported by the close general resemblance of the insect to *Episphenus* on the one hand and in a less degree to *Basilianus* on the other, and also by zoogeographical considerations. The place assigned by Kuwert to *Epilaches*[3] *filius* may be criticized in the same way; and I have little doubt that this species is based on a slightly abnormal specimen of *Basilianus neelgherriensis*.

The fourth sub-family of Indo-Australian Passalidae (i.e. the third of the second section of the family) includes only the genera *Macrolinus* and *Tiberius* from the former of which it takes its name. These two genera differ from all others of this section known to me in that the posterior ends of the supra-orbital ridges lie between the ends of the curved transverse ridge at the back of the head instead of being continuous with

1 "*Chilomazus*" *puerilis* cannot be satisfactorily placed in this scheme of classification from characters referred to in descriptions, and I have not seen a specimen. As it comes from the Aru Islands, however, it is most unlikely that it belongs to the strictly Oriental sub-family Aceraiinae. Consequently it is probable that it will have to be removed from the genus *Chilomazus* and placed somewhere in the Gnaphaloenemi-nae. In this case the genus *Chilomazus* is apparently confined to Ceylon.

2 Zang has pointed out that Kuwert's *hirsutus* and *ceylonicus* are identical and that his record of specimens from Ceylon must be incorrect.

3 See above, p. 404 footnote, concerning the confusion between the generic names *Analaches* and *Epilaches*.

them. Many of the species placed by Kuwert in the genus *Macrolinus* must be transferred to the genus *Tiberius* in accordance with Zang's revised definition of the genera which is much better than Kuwert's and which I am not yet in a position to improve upon although I think this will ultimately have to be done. "*Tiberius*" *kuwerti* or *cancrus* is not a true *Tiberius* at all and must be made the type of a new genus of Aceraiinae as pointed out above.

In the next sub-family, to which the name Gnaphalocneminae may be applied, I include all Indo-Australian genera having true lateral scars on the mentum, having the supra-orbital ridges continuous with the transverse ridge at the back of the head and having only one pair of processes (often compound) developed from the anterior margin of the head between the supra-orbital ridges. Most members of this sub-family are only found east of Wallace's line, and though one or two are found as far west as Tavoy, I have seen but a very small proportion of the described genera and species and only a very few specimens of each. Consequently I do not propose to discuss its classification further here. The definition of it given above is not quite satisfactory, for a variety of the Aceraiine species *Basilianus cantori* is known to me in which certain ridges which are developed on the mentum suggest at first sight the presence of scars. But as far as I can see the sub-family is a natural one, and I have not the material necessary for a full investigation of all its characteristics.

The only remaining sub-family found in the Indo-Australian region is the Leptaulacinae. It is distinguished from all the above-mentioned sub-families by the presence of two separate pairs of processes of the anterior margin of the head between the supra-orbital ridges. Kuwert recognized two Indo-Australian genera in this sub-family, viz. *Trichostigmus* and *Leptaulax*; but Zang has now split the latter genus into two genera to which he gives the names *Leptaulax* and *Leptaulacides*.

Stoliczka tells us that he found the study of this family of special interest from a zoogeographical point of view, though in his preliminary, and as it turned out his only paper upon it, he does not investigate this aspect of his subject very thoroughly. My own work, as a basis for which I have used the scheme of classification briefly outlined above, fully supports this view as I hope to be able to show more fully later, in a more extensive paper.

List of Works referred to above.

Arrow, G. J. "A Contribution to the Classification of the Coleopterous family Passalidae." Trans. Ent. Soc. London, 1906, pp. 441–469.

Kaup, J. "Monographie der Passaliden" Berlin Ent. Zeitschr. 15 Jahrg. 1871. Supplement, pp 1–125, pl. III–VII.

Kuwert, A. "Die Passaliden dichotomisch bearbeitet." Novit Zool. III, 1896, pp. 209–230, pl. V—VII; IV, 1897, pp. 274–306; V, 1898, pp. 137–205 and 259–349.

Stoliczka, F. "A Contribution towards a Monograph of the Indian Passalidæ," J.A.S.B., XLII (ii), 1873, pp. 149-160.

Zang, R. (1) Numerous papers in Deutsche Ent. Zeitshr. for 1905. (2) "Passalidarum synonymia" Notes, Leyden Mus. XXV, 1905, pp. 221–232.

Note.—The numeration of the article below is continued from p. 274 of the "Journal and Proceedings" for 1912.

113. ANŪPNAGAR-SHĀHĀBĀD—A NEW MUGHAL MINT.

Early this year a rupee of Shāh 'Ālam II, of which the following is a description, was brought to me in Lucknow :—

Mint.—Anūpnagar-Shāhābād.

Date.—A.H. 1189.—R.Y. 16.

Weight.—Normal.

Size.—1·125 inches.

Obverse.

الله محمد شاه عالم باد
شـــــــــــــاه
نضل حامی دین ۱۱۸۹
ســـــــــــــایه
سکه زد بر هفت کشور

Reverse.—Small flower with two leaves below لم in first line.

ماوس.
میمنت
سنه ۱۶ جلوس
ضرب
انوپ نگر شاه اباد

Trisūl in س of جلوس.

The coin was found among a large number of Etāwah rupees of Shāh ʿĀlam II, and this, together with its appearance, denotes that it probably issued from a mint at no great distance from that town.

I have been unable to find any definite trace of a town known as Anūpnagar-Shāhābād and the identity of the mint town is, I fear, up to the present a matter of conjecture. It seems possible, as suggested by my friend Dr. G. P. Taylor, that Anūpshahr in the District of Bulandshahr in the United Provinces, not very far from Dehlī, may be the origin of my coin. This town was founded by Rājā Anūp Rai Bargūjar in the reign of Jahāngīr and was named by him Anūpnagar. The Tahṣīldār of Anūpshahr informs me that this is the name entered in existing *sanads* dating from the time of the Mughal Emperors. We find it called by that name in the Farhatu-n-Nāẓirīn, *vide* Elliot and Dowson's History of India, Vol. VIII, p. 170.

"When Jhankū sustained a defeat from the army of the Abdālī and fled away with Ghāzīu-d-dīn Khān, the Abdālī sacked Dehli and encamped at Anūpnagar."

That this place was Anūpshahr is shown by another account of the same events in the Tārīkh-i-Manāzilu-l-futūḥ—Elliot and Dowson, Vol. VIII, p. 147. The latter passage relates that Aḥmad Shāh laid the foundation of a cantonment at Anūpshahr. The area thus occupied is still, I am told, known as "Cantonment."

In 1759 he again pitched his camp here, and organized the famous coalition of the Musalmāns of Upper India against the Jāts and Mahrattas, which led to the battle of Pānīpat in 1761. (*District Gazetteer, Bulandshahr*, p. 183.)

It is perhaps permissible to carry conjecture a little further and connect the title "Shāhābād" with this occupation.

We hear of Anūpshahr again being used as a halting place for troops in 1773, i.e. 1187-8 A.H.—only a year or two before the date of the coin now described—when "the combined forces of the Oudh Nawāb Wazīr and the British made Anūpshahr their rendezvous." *District Gazetteer, Bulandshahr*, p. 183. It is still a town of some local importance and is the head-quarters of a Tahṣīl.

H. Nelson Wright.

September, 1912.

114. The Mughal Coins of Junagadh. (With Plate XXVI.)

The peninsula of Kāṭhiāwāḍ, situated between the gulfs of Kachh and Cambay, was early known as Saurāṣṭra, or 'the Goodly Land': but in process of time both the name and its

application have undergone a change, so that the Soraṭh of to-day is the district in the south and south-west of the peninsula. Midst all change, however, it has remained the Goodly Land. Here is a glowing eulogy of the province that Sikandar bin Muḥammad, writing in 1611, has recorded in his History :—

> "And what a country is Sorath! As if the hand of "heaven had selected the cream and essence of "Mālwah, Khāndesh, and Gujarāt, and had made "a compendium of all the good people of the world, "and had picked out the noblest and most vigorous "of men from the three countries named, and "collected them together unto one standard, as a "touchstone of the countries of the world . . . . . "God be praised! Such is Sorath, even at the "present day." [1]

Jūnagaḍh, the chief city of the province, lies in a picturesque valley at the foot of the Girnār and Dātār Hills. The origin of the city is shrouded in a remote antiquity. Already in ancient times it bore the names of Purātana-pura and Pūrva-nagara. Its more modern names were Jīrṇa-durga and Jīrṇa-gaḍha, of which the latter would seem to be the original of its present name, Jūnagaḍh. Thus from time immemorial it has been continuously known as 'the Ancient City' or 'the Old Fort.'

The Mir'āt-i-Sikandarī has preserved for us the story how the city came by this name. Long long ago, so the people of Soraṭh say, for the full five *kos* between Jūnagaḍh and the former capital, Vanthalī (Vāmana-sthalī), extended a dense dark jungle into which "neither horse nor man could penetrate." But one day a venturesome wood-cutter forced a passage through, and lo! on the further side high walls of stone and a massive gate confronted him. Entering within, he saw a *yogī*, wrapped in contemplation, at whose feet he prostrated himself, and begged to be told the name of the city and its builders. 'Jūna' was the only word vouchsafed in reply. The hardy peasant soon thereafter returned in safety to his home; and the Rājā, hearing of the strange adventure, forthwith had the whole jungle cleared away. The mysterious fort now stood exposed to vulgar gaze, yet none could tell how or when it had come into existence: and so no better name could be devised for it than just the *yogī's* Jūnagaḍh.

Tradition says that after the fall of Valabhī-pura, about A.D. 770, the then Viceroy at Vanthalī assumed independence, and thereafter, till near the close of the fifteenth century, the Chūḍāsamās were rulers of Jūnagaḍh. Time and again the

[1] Sir E. C. Bayley's translation of the Mir'āt-i-Sikandarī, pp. 180, 181.

city has been besieged. In 1350 Muḥmmad (III) ibn Tughlaq plundered the place, and took away as prisoner the Rāo Khengār. Then in 1414 the Gujarāt Sulṭān, Aḥmad Shāh, following the example set him twenty years earlier by his grandfather, Ẓafar Khān, invaded Sorath, and invested the Uparkoṭ, or citadel, of Jūnagaḍh. "The light of Islām did "not shine fully over the country on this occasion; still the "power of the infidels was broken, and they were changed from "the quality of *harbis* (*i.e.* enemies) to the condition of *zimmis* "(*i.e.* tributaries or subjects)."[1]

It was, however, Maḥmūd Begaḍā ('Mahmūd of the two forts'—Jūnagaḍh and Champānīr) who finally annexed the province to the Salṭanat of Gujarāt. On three several occasions he led his armies against the infidels of Girnār, and ultimately in 1472 Rāo Maṇḍalik V not only surrendered his kingdom but accepted the bitter condition imposed upon him of conversion to Islām. Thereafter known as Khān Jahān, he resided in Aḥmadābād, where his grave, enclosed by a shabby wooden railing, can be seen to-day on the ground floor of a tiny shop in the Māṇek Chok. Maḥmūd, elated by his victory, changed the name of Jūnagaḍh to Muṣṭafa-ābād, and at his express desire several of his nobles built themselves residences there.

Probably now for the first time in its history a mint was opened in this city. Silver and copper coins bearing the mint name Shahr a'ẓam Muṣṭafa-ābād were struck between the years 879 and 892 Hijrī, possibly also in 894, 905, and 906. These have been described in an article on "the Coins of the Gujarāt Salṭanat" in the Journal of the Bombay Branch of the Royal Asiatic Society (vol. xxi, No. lviii).

Right on to the close of the Aḥmad Shāhī Dynasty Jūnagaḍh remained tributary to the Sulṭāns of Aḥmadābād, though the allegiance was often little more than nominal. By the time that Akbar effected his first conquest of Gujarāt in 1572-73, Tātār Khān Ghorī had established himself as virtually the independent ruler of Jūnagaḍh, and it was not till some twenty years later that the city was besieged and captured by the Imperial troops. The province, being thereupon annexed to the Empire, passed under the immediate authority of the Mughal Viceroy of Gujarāt, while its direct administration was deputed to Faujdārs resident at Jūnagaḍh. This system continued in force till 1738 when, in consequence of the waning power of the Mughal Emperors, a soldier of fortune of Afghan descent named Sher Khān Bābī, the last of the Faujdārs, quietly—or, as the Tārīkh-i-Soraṭh puts it, "without any further ado"—disclaimed allegiance to Dehli, and assumed the

[1] *Ibid.*, p. 98.

title of Nawāb Bahādur Khān. He was the founder of the still reigning dynasty, and from him the present chief, a minor, stands ninth in succession.

The currency prior to the sway of the Chūḍāsamā Kings consisted doubtless of the coins of the Western Kṣatrapas and, to some extent, of the Guptas. During the period of Chūḍāsamā rule, say A.D. 800—1472, the Gadhaiyās, in silver and copper, must have been in common use, but for the latter part of that period these would be superseded by coins of the Sulṭāns of Dehlī and of Aḥmadābād. In the last quarter of the fifteenth century the mint of Muṣṭafa-ābād itself supplied the currency, and for the next hundred years the coins generally of the Gujarāt Salṭanat will have been in vogue. At the annexation of the province to the Dehlī Empire in 1592, coins in large number were in circulation from the new mints of Kachh and Navānagar and, perhaps, of Porbandar. Accordingly it was not till well into the reign of Shāh Jahān I that any need was felt for opening—or rather re-opening—a mint in Jūnagaḍh itself. Thenceforward coins issued from this mint certainly till the year of Muḥammad Shāh's accession, A.D. 1719, but none are known of the later Mughal Emperors.

Of the Mughal coins that issued from the Jūnagaḍh mint, the specimens now to be described number, exclusive of duplicates, sixty-two. Eleven of these are in the Indian Museum, five in the British Museum, five in the Lāhor Museum, and the remaining forty-one in my cabinet. They range over the eighty-two years from 1049 to 1131 H., and include coins of the six Emperors, Shāh Jahān I, Aurangzēb, Shāh 'Ālam I, Farrukh-siyar, Shāh Jahān II, and Muḥammad Shāh.

Not a single specimen in copper is known, and in gold only one, No. 1154 of Vol. iii of the Indian Museum Catalogue. Regarding this muhr Mr. Nelson Wright gives the foot-note, "Probably a coin of Jūnagarh, cf. No. 1367." This assignment, however, may be accepted with absolute confidence, and by consequence the query mark entered in the mint-column were better omitted.[1]

According to Mr. Stanley Lane-Poole the fabric of all the examples of this mint is "extremely rude," and this coarseness he connects with "the remote situation of Jūnāgarh."[2] The true reason, I fancy, is simply that the British Museum had been unfortunate in the specimens obtained from this particular mint. Certainly those in my collection are as to fabric well up to the average, while some are of distinctly excellent workmanship.

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[1] Similarly the queried muhr No. 1154(b) is almost certainly to be assigned to the Kashmīr mint.

[2] "The coins of the Moghul Emperors of Hindustān in the British Museum," pp. lv, lvi.

It is not, I think, commonly known that on these coins *three* variant forms of the mint-name are recorded :—

(*a*) We find the name written as جونه گر Jūnagar (or Jūnagaḍ), throughout the reign of Shāh Jahān I, also from 1099 H. onwards ;

(*b*) then as جونه گڈھ, Jūnagaḍh, from 1070 to 1072, also from 1077-1096 ;

(*c*) and lastly, as جونه گر گڈھ, Jūnagar-gaḍh (or Jūnagaḍ-gaḍh) in 5-1074 and 6-1074.

In Gujarātī the name is nowadays generally spelt જુનાગઢ, Junāgaḍh,[1] but what precisely is the origin of the word Gaḍh, 'a fort,' I have not yet been able to discover. The Sanskrit गर्त, 'a hole,' 'a cave,' and गढ, 'a fence,' 'a moat,' would each of them give us Gaḍ, but neither serves to account for the aspirated (mahāprāṇī) 'ḍh.' So, possibly, the form Gaḍ is philologically as correct as the more common form Gaḍh, and indeed, in the Kāṭhiāwāḍ volume of "the Bombay Gazetteer" (vol. viii) the name both of the city and of the state is invariably spelt Junāgad. It is thus not surprising that on the coins the name occurs sometimes as جونه گر and sometimes as جونه گڈھ.[2] The third, and longest, form جونه گر گڈھ means, of course, just 'Jūnagaḍ Fort.'

It is further noteworthy that the first element, Jūna, of the compound name, is on the coins always written جونه with final 'he,' *not* 'alif.' On the other hand, the Hindūstānī word for 'old' is جونا with final 'alif.' Accordingly it *may* be that جونه گڈھ means not 'the Old Fort' but 'the Fort of Jūna'; and Jūna, as Mr. Lane-Poole reminds us, was the birth-name of Muḥammad ibn Tughlaq, the Sulṭān who in 1350 successfully invested Jūnagaḍh. Ibn Batūta writes of him, "He was called *Jaunā*, the sun; when be became king he called himself Muḥammad Shāh."[3] That the city derives its name from the name of its erstwhile conqueror is an attractive conjecture, but, as we have already seen, long before that conqueror's invasion the city had been known as 'the Old

[1] Colloquially, indeed, the name Jūnagaḍh is often shortened to Gaḍh. Compare Nagar for Aḥmadnagar, or Derry for Londonderry.

[2] Is it the case that on the coins of Akhtarnagar Awadh, the second member of this name is in like manner variously written اود and اودھ ? See B.M.C. No. 985. Or is the final 'he' simply wanting on this specimen ? Of the nine rupees from this mint in my collection two show the 'he' fairly clearly.

[3] Dowson's Elliot, iii, 606, 611.

Fort,' and this, doubtless, is the real signification of Jūnagaḍh. The passage was easy from جونہ گڈھ to جونا گڈھ and *vice versâ*. Indeed on one occasion Aurangzēb issued an imperial mandate that in place-names a final 'he' should be supplanted by an 'alif.'[1]

We now proceed to a detailed description of the Mughal coins struck at the mint of Jūnagaḍh.

I. Shāh Jahān I: A.H. 1037-1069; A.D. 1628-1659.

Silver: No. 1: (*Fig.* 1): 13—1049; 14—1050.

Obverse.—Area square with looped curves.

لا اله الا الله

محمد

رسول الله

Margin lower: بصدق ابي بكر

,, left: و عدل عمر

,, upper: بازرم عثمان

,, right: و علم علي

Hijrī year in left margin.

Reverse.—Area square with looped corners.

بادشاه غازے

شاه جهان

Margin upper: شهاب الدين

,, right: محمد صاحب

Margin lower: قران ثاني

,, left: ضرب جونه گر

Regnal year in right margin.

Silver: No. 2: (*Fig.* 2): 1050; 1052; 1054; 1057; 1059; 1060; 1062; 1063; 1064 (L.M.C.); 1066; 1067; 1069.

Also an undated half-rupee (C. E. Kotwal).

Obverse.—As on No. 1.

Reverse.—As on No 1.
but Regnal year is not recorded.

II. Aurangzēb: A.H. 1068—1118; A.D. 1658—1707.

Gold: x—xxxx (I.M.C. No. 1154).

[1] *Ibid.*, vii, 344.

Obverse.—Area square:

عالم گیر

زیب

اورنگ

شاہ

Margin right: سکہ زد

,, lower: در جہان

,, left: } wanting.

,, upper: }

Hijrī year wanting.

Reverse.— Area square:

مانوس

میمنت

جلوس

Margin upper: ضرب

,, right: }

,, lower: } wanting.

,, left: }

Regnal year wanting.

Though this *muhr* in the India Museum bears neither mint-name nor any date, a comparison with the rupee of No. 2 type will show that the muhr may with confidence be assigned to the جونہ گر گڈھ mint and to the period between the fifth and the eighth Regnal years. See also I.M.C. iii, page 136, note 1.[1]

Silver: No. 1: (*Fig.* 3): Rupees: 3—1070 (L.M.C.); 3—1071: 4—1072.

Half rupee: 4—xxxx.

Obverse.—Area square with looped corners:

عالم گیر

زیب

اورنگ

شاہ

[1] Since finishing this article I have received Numismatic Supplement No. xvi, in which Mr. Allan makes mention of a Jūnagadh muhr, dated x—1077. As he states that its legend calls for no remark, it is, I presume, identical with that on the Jūnagadh rupee of the same year —type No. 3—save only that مہر will have been substituted for بدر

Margin lower : سکه زد
,, left : در جهان
,, upper : چو بدر
,, right : منیر سنه

Hijrī year in right margin over سنه.

Reverse.—Area square with looped corners :

مانوس
میمنت
جلوس

Margin upper : ضرب
,, right : جونه
,, lower : گڈه
,, left : سنه

Regnal year in left margin over سنه.

Silver : No. 2 : (*Fig.* 4) : Rupees : 5—1074 ; 6—1074 (B.M.C.) ;
8—xxxx (L.M.C.)
Half rupee x—1074.

Obverse.—Area square with looped corners :

ز عالم گیر
یـــب
اورنگ
شـــاه

Margin right : سکه زد
,, lower : در جهان
,, left : چو بدر منیر
,, upper : سنه

Hijrī year in upper margin over سنه.

Reverse.—Area square with looped corners :

مانوس
میمنت
جلوس

Margin, upper: ضرب

,, right: جونه گر

,, lower: گڈه

,, left: سنه

Regnal year in left margin over سنه.

Of the rupee 8—xxxx in the Lāhor Museum the margins are illegible.

Silver: No. 3: (*Fig.* 5): Rupees: 9—1077; 10—1079; 12—1080 (L.M.C.); x—? 1080 (I.M.C); 14—1082; 15—1082 (I.M.C.); x—1084; x—1085 (B.M.C.); 1086—1087 (*sic.*); 26—1093; 27—xxxx (I.M.C.).

Half rupee: x—1077.

Obverse.—Area square with looped corners:

عالم گیر

زیـــب

نـــگ

شاه اور

Margin right: سکه زد

,, lower: در جهان

,, left: چو بدر منیر

,, upper: سنه

Hijrī year in upper margin over سنه.

Reverse.—Area square with looped corners:

مانوس

میمنت

جلوس

Margin right: ضرب

,, lower: جونه

,, left: گڈه

,, upper: سنه

Regnal year in upper margin over سنه.

Note 1.—The rupee dated on the obverse 1087 has on the reverse instead of the regnal year the date 1086 (*fig.* 6).

Note 2.—The rupee dated x—1090 in the British Museum has

Obverse margins, ... | . . . . | . . جونه کد | ضرب

and Rev. margins, سکه زد | درجهان | چو بدر | منیر سنه ۱۰۹۰

Silver: No. 4: (*Fig.* 7): 28—1096.

Obverse.—Area and legend as in No. 3.

Margin right: سکه

,, lower: زد در

,, left: جهان چو

,, upper: بدر منیر

Hijrī year ۱۰۹۶ *in area* over ب of ضرب.

Reverse.—Area square with looped corners:

مانوس

مبمنت

سنه جلوس

Margin lower: ضرب

,, left: جونه

,, upper: } wanting.
,, right: }

Regnal year ۲۸ *in area* over سنه.

Silver: No. 5: 31 ?—1097 (I.M.C.).

Obverse.—Area and legend as in No. 3.

Margin lower: سکه زد

,, left: درجهان

,, upper: چو بدر

,, right: (*sic*) منیر سنه ۱۰۷۹

Reverse.—Area and legend as in No. 3.

Margin right: جونه

,, lower: گذر

,, left: سنه ۳۱ ؟

,, upper: wanting.

Silver: No. 6: (*Fig.* 8): 31—1099 (I.M.C.); 31—xxxx (L.M.C.); 33—1101 (I.M.C.); 3x—1101; 34—1102 (I.M.C.); 36—1104 (I.M.C.); 41—1109; 4x—1109 (B.M.C.); 42—1110; 4x—1111; 47—1114; 50—1117; 5x—1119.

Obverse— عالم گیر
اورنگ زیب
شـــــاه
زد چو بدر منیر
ســـــــکه
در جهان

Hijrī year over the ک of اورنگ زیب.

Reverse.—Rim: two linear circles with dots between.

مانوس
میمنت
سنه جلوس
ضرب
جونه گر

Regnal year over سنه.

The four rupees of this type in the Indian Museum are entered in the Catalogue as having the mint-name written as جونه گڑه. See I.M.C. Nos. 1373—1376.

III. Shāh ʻĀlam I, Bahādur: A.H. 1119—1124, A.D. 1707—1712.

Silver: (*Fig.* 9): احد—xx19; 2—1120.

Obverse— بادشاه غاز
شاه عالم بهادر
ســـــــکه
مـــبـــارک

Hijrī year to left of ک of مبارک.

Reverse— مانوس
میمنت
سنه جلوس
ضرب
جونه گر

Regnal year over سنه.

IV. Farrukh-siyar: A.H. 1124–1131, A.D. 1713—1719.

Silver: No. 1: (*Fig.* 10): 4—xxxx.

Obverse—

زد از فضل حق بر
سـ ـ ـ ـ ـ ـکه
فرخ سیر

On comparing this rupee with No. 1743 of the Indian Museum Catalogue, I incline to reconstruct the legend on the Obverse as follows:—

و زر
سـ ـ ـ ـیم
زد از فضل حق بر
سـ ـ ـ ـ ـ ـکه
بحر و بر فرخ سیر
شـ ـ ـ ـ ـ ـاه
باد ۱۱۲۷

Reverse—

مانوس
میمنت
سنه جلوس
ضرب
جونه گز

Regnal year over سکه.

Silver: No. 2: (*Fig.* 11): 6—xx 29; 7—xx3x; 8—xxxx.

Obverse—

بحر و بر فرخ سیر
شـ ـ ـ ـ ـ ـاه
از فضل حق باد
سـ ـ ـ ـ ـکه
زد بر سیم و زر

Hijrī year to left of ک of سکه.

Reverse.—As on No. 1.

V. Shāh Jahān II, (Rafi' al daulat): A.H. 1131, A.D. 1719.

Silver: (*Fig.* 12): احد—11xx.

Obverse— غازي
شـــاه
شاه جهان باد
ک ــــــ
سکـه مبار

Hijrī year 11 . . . . to right of غا of غازي.

Reverse— مانوس
میمنت
سنه جلوس
ضرب
جونه گڑ

Regnal year احد over سنه.

This rupee may be, but probably is not, of the reign of Shāh Jahān III. It is of a type that one associates with the earlier rather than with the later half of the twelfth (Hijrī) century. Compare the Multān (and Ajmēr) rupees of Shāh Jahān II.

VI. Muḥammad Shāh: A.H. 1131—1161, A.D. 1719—1748.

Silver: (*Fig.* 13): احد—XXXX.

Obverse— محمد شاه
ے ــــــ
باد شاه غاز
ک ــــ
سکه مبار

Hijrī year wanting, but a trace of the unit figure 1 seems to be present to the left of ر of مبار on lowest line.

Reverse— مانوس
میمنت
سنه جلوس
ضرب
جونه گڑ

Regnal year احد over سنه.

———

During the last hundred years or so—it would seem from about A.D. 1825—Jūnagaḍh *Native State* coins have been issued both in silver and in copper. Of these Dr. Codrington has given a brief account in his interesting paper on "The Coinages of Cutch and Kāthiāwār." Since the publication, however, of that paper in 1895, a new type of Jūnagaḍh (copper) coin has been struck, and accordingly this, and indeed other coins too of that State; still await detailed description. For instance, Dr. Codrington makes mention of the Hāṭakeśvara Śāī Korī, adding that he had not himself seen a specimen of this rare coin. Happily a more propitious fortune has attended my enquiries, for, through the kind offices of Mr. L. Robertson, I.C.S., Administrator of the State, the solitary specimen in the Jūnagaḍh Museum—none other is at present known anywhere—was recently sent me for inspection. Some day I hope to write a note on this coin—if current coin it ever was—and should like to report also on any other types of the State coins that may meanwhile come my way.

GEO. P. TAYLOR.

Aḥmadābād, 1912.

115. NOTE ON A NEW COIN OF AURANGZÉB.

R

Mint—Sháhjahánábád
Dáru-l-khiláfat

Date—1070 A.H. *Regnal year*—1.
Wt. 170.
S. 95.

Obverse.

In square بادشاه غازي
عالم گير

Margins	
Left	ابو الظفر
Top	محي الدين محمد
Right	اورنگ زيب
Bottom	بهادر سنه ۱۰۷۰

Reverse.

In square	جهان شاه دار الخلافت ضرب
Margins	
Left	سنه احد
Top	جلوس
Right	ميمنت
Bottom	مانوس

This is I believe the first square area rupee recorded of the Sháhjahánábád Mint. Coins from this mint of the early years of Aurangzéb appear to be rare, the earliest date in the I.M.C. is 1072: 4. In the sale catalogue of the White King collection a coin of this mint (No. 3847) is recorded of the year 1069, with the چوبدر منير couplet: I think this must be an error for 1079.

The other mints which issued square area type rupees are, Akbarábád, Júnagadh and Jahángírnagar: while there is a square area type *muhar* of Akbarnagar (No. 706) in the B.M.C.

C. J. Brown.

Lucknow, 1912.

44. The Mint Towns of the Mughal Emperors of India.

By R. B. Whitehead, I.C.S.

INTRODUCTION.

Systematic research in that branch of Indian numismatics belonging to the issues of the Mughal Emperors of India, is a growth of quite recent date. Mr. C. J. Rodgers of Amritsar was the first regular worker on these important coins, and a considerable number of papers on the subject from his pen appeared principally in the Journal of the Asiatic Society of Bengal between the years 1880 and 1895. But it was not till the latter year that his Catalogues of the Indian Museum and Lahore Museum Collections were completed. The British Museum Catalogue appeared in 1892. Contributions from other workers in the field were published from time to time, but the papers were scattered, and are now difficult of access. Mr. R. Burn, I.C.S., was the first to bring together and systematize this information, and the result was embodied in his monograph "The Mints of the Mughal Emperors," which appeared in the Journal, Asiatic Society of Bengal, for 1904. This contained Tables of Mints compiled from various sources, showing at what towns each separate emperor and claimant issued coin in each of the three metals. These Tables were prefaced by a brief Introduction, and Notes on important points in connection with some of the mint towns. It was remarked that although no attempt had been made to describe coin types and inscriptions, still such Mint Lists are of use both to the historian as showing what places were included in the Mughal Empire at various periods, and to the numismatist as a guide in ascertaining whether a coin of a particular mint is known or not.

I think that combined systematic and scientific work in the field of Mughal numismatics may be dated from the appearance of Mr. Burn's Tables. Under the impetus of his excellent example, research has proceeded at a rapid rate. The first Numismatic Supplement to the Journal of the Asiatic Society of Bengal appeared in 1904 under the editorship of Mr. H. Nelson Wright, I.C.S., and contained contributions from Mr. R. Burn, Dr. G. P. Taylor of Ahmadabad, and from the editor. These Supplements have appeared at intervals since that year, and have absorbed much of the recent original work done on the numismatics of Northern India. Dr. Codrington's "Manual of Musalman Numismatics," one of the

Royal Asiatic Society monographs, was also published in the year 1904, and contains much valuable information on Indian coins.

In the year 1906 appeared the first volume of the new Catalogue of the Coins in the Indian Museum, Calcutta, by Mr. Vincent A. Smith, I.C.S. (retired), on the pre-Muḥammadan series, and this has been followed by the second and third volumes dealing respectively with the issues of the Pathān Sultans of Dehli and their contemporaries, and with those of the Mughal Emperors of India. Both have been written by Mr. H. Nelson Wright, I.C.S. This new Catalogue has been conceived in a liberal spirit, is a first-class work well illustrated with plates, and constitutes the last word on the subject. It is hoped that Catalogues on similar lines will be prepared for the Lahore, and Lucknow Collections, and if the British Museum brings out new Catalogues of its splendid Indo-Greek and Muḥammadan Cabinets, the student of Indian numismatics will be very well equipped for his work. Another instrument of research is the recently founded Numismatic Society of India, which it is hoped will become a permanent and useful body.

Turning from this brief review of modern progress to the subject of this paper, many new Mughal coins have been published in the Numismatic Supplements. One or two other works bear more particularly on Mughal mints. I may mention the comprehensive list of mints in the 'Manual of Musalman Numismatics.' Dr. G. P. Taylor's paper 'The Mints of the Mughal Emperors of India,' was written in 1904, and published in the Journal of the Bombay Branch of the Roy Asiatic Society. Then a review from the pen of Dr. Taylor, of the Mint Lists of Mr. Burn and Dr. Codrington, appeared in the third Numismatic Supplement (J.A.S.B., 1904). I must also mention the valuable monographs by the same author on the mint of Aḥmadābād, and on that of Sūrat. A description of the coins of Cambay is in course of preparation, while papers on the mints of Āgra and Lahore are contemplated. This method of attacking the subject is undoubtedly the most thorough and satisfactory, but will require much time and labour, and the collaboration of many workers.

It is evident that during the few years that have elapsed since the year 1904, the subject has increased considerably in magnitude, and the preparation of a new edition of Mr. Burn's Tables has become necessary. I have undertaken to do this work, and have carried it out on lines similar to those followed by Mr Burn, but with certain differences. I have tapped all sources I have been able to discover, commencing as Mr. Burn did, with the British Museum Catalogue. All mints found in it were noted, and other catalogues and papers were then searched, in the order shown below, and fresh mints have been marked as they were found. The entry of a coin from any

publication means its absence from the preceding ones. Lastly unpublished coins are shown; for private collections I am indebted to the courtesy of the owners, who have permitted me to mention their coins. I have endeavoured to give strict precedence to published coins, even when publication consists of nothing more than such cursory notices as are found in Sale Catalogues, and I have adhered to this rule even when I have known that coins coming much further down in the list, exist for instance in the British Museum, but have been acquired since the appearance of the Catalogue.

It is hoped that the new arrangement of the Tables will be found more convenient than the old one. All known coins of each mint are now grouped directly under it, and there are no small supplementary groups. A few blank columns have been left for the insertion of new mints as they are discovered. I contemplate the periodical issue of correction and addition slips, and shall be glad if numismatists will kindly communicate such matter for publication.

Key to the References.

Catalogue of the British Museum, 1892 ..		B.M.
Catalogue of the Indian Museum, Calcutta, 1908		I.M.
Catalogue of the Lahore Museum, Punjab, 1894		P.M.
Numismatic Supplements to the Journal of the Asiatic Society of Bengal ..		Roman Numerals.
J. G. Delmerick, 'Lists of Rare Muhammadan Coins' ..	J.A.S.B., 1875	Del (1).
J. Gibbs, C.S.I., 'Notes on the Zodiacal Rupees and Mohars of Jehanghīr Shah'	J.R.A.S, 1878 (Bombay).	G. (1).
C. J. Rodgers, 'Couplets or Baits on the Coins of Shah Nūru-d-dīn Jahāngīr'	J.A.S.B., 1888	R. (4).
C. J. Rodgers, 'On Miscellaneous Coins'	J.A.S.B., 1888	R. (3).
W. Vost, 'On some rare Muhammadan Coins'	J.A.S.B., 1895	V. (1).
W. Vost, 'The Dogām Mint' ..	J.A.S.B., 1895	V. (2).
C. J. Rodgers, 'Mughal Copper Coins'	J.A.S.B., 1895	R. (1).
C. J. Rodgers, 'Rare Mughal Coins'	J.A.S.B., 1896	R. (2).
R. Burn, 'A new Mint of Akbar'	Progs. A.S.B., 1896	B. (1).
G. P. Taylor, 'The Coins of Ahmadabad'	J.R.A.S., 1900 (Bombay Branch).	T. (1).

L. Dames, 'Some Coins of the Mughal Emperors'	Num. Chron. 1902	D. (1).
Wolseley Haig, 'Note on a find of copper coins in the Wun District, Barār'	J.A.S.B., 1902	H. (1).
G. P. Taylor, 'The Coins of Sūrat'	J.R.A.S., 1907 (Bombay Branch).	T. (2).
Sale Catalogue of the Da Cunha Collection, London ..	..	D.C.
Sale Catalogue of the Coins of Mr. Eugene Leggett, Karachi ..	..	L.
Sale Catalogue of the White King Collection .. .. (Some of the rarer of the White King Coins were previously published in a paper entitled 'Some Novelties in Mughal Coins,' Num. Chron., 1896).	Amsterdam, 1905	K.
Sale Catalogue of the Bourdillon Collection	Amsterdam, 1907	Bo.

Unpublished Coins.

Collection of Mr. H. Nelson Wright, I.C.S. (Bareli)	W.
Collection of Hon'ble Mr. R. Burn, I.C.S. (Allahabad)	B.
Collection of Rev. G. P. Taylor, D.D. (Ahmadabad)	T.
Collection of Mr. R. B. Whitehead, I.C.S. (Lahore)	Wh.
Collection of Mr. Framji Thanawala (Bombay) ..	F.
Collection of Sir John Stanley (London) ..	St.
Collection of the Lucknow Museum	L.M.
Collection of the Nagpur Museum	Nag.
Collection of Mr. W. E. M. Campbell, I.C.S. (Lucknow)	Ca.
Collection of Lieutenant-Colonel Vost, I.M.S. (Lucknow)	V.
Collection of Mr. Samuel Smith (Liverpool) ..	Sm.
Bahawalpur State Toshakhana	Bah.
Emended readings of coins in the British Museum Catalogue	*B.M.*
Collection of Mr. G. B. Bleazby acquired by the British Museum in 1911	B.M.

The reference P.M. also includes coins contained in a new and enlarged Catalogue of the Coins in the Lahore Museum, which it is hoped will be published in 1913.

In order to increase the accuracy and value of the new Tables, I have verified as far as possible the readings of the coins mentioned.

A study of the British Museum Catalogue Plates will show that a few of the coins have been wrongly described. Some emendations which bear directly on the present subject are:—

Coin No.		*Emendation.*
31	..	*Delete* Sārangpūr.
61	..	*For* Sahrind, *read* Shahr Pattan.
690 and 691	..	Mints not legible.
726	..	Gulkanda, *not* Calcutta.
860 and 874	..	Mailāpūr, *not* Sholāpūr.
893	..	Purbandar.
902	..	*Not* Gangpūr; reading uncertain. Mr. Nelson Wright has suggested Kanjankot.
946	..	Farkhunda Bunyād Ḥaidarābād. Also published in Del (1).
1011	..	*Delete* 'Ajāyūr'; reading uncertain.

I have noted more fully on some important points in the Notes supplementary to this Introduction.

As regards the attributions of rarities which I have not personally inspected, a certain number of coins have had to be taken on trust, but their number has been reduced to a minimum. Mr. Nelson Wright has kindly co-operated with me in the work of verification. The following lists briefly show the results of the work in this direction.

A. Doubtful Mints omitted.— Ajāyūr, Sārangpūr, Butān, Khārpūr, Dār-i-taṣṣawur, Nagar, Sirsa, Gangpūr, Wālijābād, Jalaonābād, Satgaon.

Some of these, such as Sārangpūr, Satgaon, and Nagar have been misreadings. Others, such as Ajāyūr, Khārpūr, Sirsa, and Gangpūr, have been attempts to interpret difficulties, but are too uncertain to merit permanent record.

B. Mints unverified or not quite certain, but included.— Pūnch, Ismā'īlgaṛh, Bāndhū, Dādar, Kānān, Bālāpūr, Bisaulī, Gokulgaṛh (Dakhan), Khairnagar, Dāmla, Kīratpūr, Madan Koṭ, Jhānsī, Nāhan.

C. Doubtful mints identified.—Baldat Bikānir, (Baldat-i-Ṣafā); Gokulgaṛh (Punjab), (Dīngaṛh); Ḥaidarābād, (Dāru-l-jihād).

D. Mints corrected.—Dewal Bandar (Dewal), Salīmābād (Salīmgaṛh), Mānghar (Mānghir), Mirtha (Mīraṭh), Najafgaṛh (Najībgaṛh) Ravishnagar (Krishnagar), Shāhgaṛh Qanauj (Shergaṛh Qanauj).

E. Mints omitted for various reasons.—Burhānābād; non-Mughal. Ḥusainābād; I prefer to read this name as Ḥasanābād.

Nāgpūr; *read* Nāgor.

Samarqand and Badakhshān: coins struck by Bābur before his invasion of India.

Muẓaffarābād ; *read* Ẓafarābād
Kachraulī ; *read* Chhachraulī.

All mints of Akbar II and Bahādur Shāh II except Shāhjahānābād ; see below.

F. New mints.—Adonī, A'ẓamnagar Gokulgaṛh, Akbarpūr Tānda, Orchha, Bālānagargaḍhā, Braj Indrapūr, Budāon, Bikānir, Balkh, Bāndhū, Toragal, Jālnapūr, Jalālnagar, Jinjī Chhatarpūr, Ḥājīpūr, Khairābād, Derajāt, Ravishnagar Sāgar, Satārā, Sa'dnagar, Sind, Pattan, Sītpūr, Sīkākul, Fīrozgaṛh, Qandahār (Dakhan), Karpā, Kalkatta, Kūnch, Gadraula, Gulshanābād, Gokulgaṛh (Dakhan), Gohad, Maḥmūd Bandar, Mandīsor, Anūpnagar Shāhābād.

The following is a list of mints with more than one name :—

Atak	..	Ajmer.
Atak Banāras	..	Salīmābād Ajmer.
	..	Salīmābād.
Aḥsanābād	..	Awadh.
Gulbarga	..	Akhtarnagar Awadh.
Adonī	..	Āṣafābād Barelī.
Imtiyāzgaṛh	..	Barelī.
A'ẓamnagar Gokulgaṛh	..	Akbarābād.
Gokulgaṛh (Dakhan)	..	Āgra.
Ilahābād	..	Aurangābad.
Ilahābās	..	Khujista Bunyād.
Braj Indrapūr	..	Balwantnagar.
Mah Indrapūr	..	Jhānsi.
Bhartpūr	..	Jhānsi.
Bindraban	..	Patna.
Mūminābād	..	'Aẓīmābād.
Mūminābād Bindraban	..	'Aẓīmābād.
Hiṣṣār	..	Dehlī.
Hiṣṣār Fīroza	..	Shāhjahānābād.
Shāhābād Qanauj	..	Farrukhābād.
Shāhgaṛh Qanauj	..	Aḥmadnagar Farrukhābād.
Gorakhpūr	..	Makhṣūṣābād.
Mu'aẓẓamābād	..	Murshidābād.

On the other hand I have considered each member of the following groups as a distinct and separate mint :—

Urdū, Urdū dar rāhi dakhan, Urdū Ẓafar Qarīn ; Islāmābād, Islāmābād Mathurā ; Akbarpūr, Akbarpūr Tānda ; Srīnagar, Kashmīr ; Zainu-l-bilād, Aḥmadābād.

In his comparative review of the Mint Lists of Dr. Codrington and Mr. Burn (N.S. III), Dr. Taylor mentions twenty-three mints present in Dr. Codrington's List, but not in Mr. Burn's :—

Asfīr, Izābād, Budāon, Badakhshān, Binda, Bahāwalpū, Tānda, Jālandhar, Jalālābād, Jahānābād, Jahāngīrābād, Jahān-

girpūr, Chatarkoṭ, Champānīr, Ranajin, Sikandarābād, Siālkoṭ, Sītpūr, Shikar ul Gāh, 'Ālamgīrnagar, Kalinjar, Manghir, Hāpūr. Of these I have included Budāon, Champānīr, and Sītpūr, and have given a reason for excluding Badakhshān. One or two of the rest have been taken from the Da Cunha, and Leggett Sale Catalogues, but though I have included new coins of known mints from these Catalogues, I have thought it unwise, in the absence of corroboration, to admit new mints on their sole authority. As regards the remaining mints, it is desirable that some should be submitted anew to a careful scrutiny, and I do not know of Mughal coins from any of them.

The result of a strict application of the above rules of selection and elimination is that the revised number of Mughal mints is now two hundred precisely. An addition of every separate reference in the lists gives us the following comparative table :—

	Mints.	*Ⱥ*	*Ꞧ*	*Æ*
Mr. Burn's Lists	187	150	514	182
New Lists	200	273	627	197

So in eight years the number of references to gold coins has nearly doubled itself; there is a substantial increase in the record of known silver coins; but copper has been almost stationary.

Close of the Mughal Currency.

It is well known that many coins bearing the names of the later Mughal Emperors, were not struck by their authority. For instance, the Hon'ble East India Company struck millions of rupees in the name of Shāh 'Ālam II. The rise of independent States which accompanied the gradual decay of the Mughal Empire, was signalized by the issue of coin only nominally Mughal. In its earlier stages each new power preferred to shelter under the aegis of Dehli, and to take advantage of what still remained of the old Mughal prestige, by striking coin in the name of the regnant emperor, and by imitating the imperial issues. These imitations can as a rule be distinguished by their style, and the local devices they bear. So rises an important question in Mughal numismatics. It should be decided what are to be accepted as Mughal coins, as distinguished from the early issues of Independent States and of the various East India Companies. A settlement may not be easy to discover, but an authoritative catalogue of the coins of Native States is called for, and the question will have to be determined one way or another in the near future.

In his Introduction to Volume III of the new Indian Museum Catalogue, Mr. Nelson Wright has made a brief allusion to the matter. Based on his observations I have suggested that coins should be classed as belonging to imperial issues, if they conform to the following criteria :—

(i) They should be of the imperial type, and bear legible inscriptions ;
(ii) They should have legible mints, and their regnal and Hijri dates should be in accord ;
(iii) Local mint marks, devices, and symbols should be absent.

My meaning will become more apparent if I cite one or two instances. Two new mints of Shāh 'Ālam II were published in N.S. XI—Ravishnagar Sāgar, and Bālānagar-gadhā—but are obviously non-imperial. They are essentially Native State coins as evinced by their style and the illegibility of the mint names, quite apart from the fact that they were not issued under Shāh 'Ālam's direct influence. Coins bearing the sun-face of Indore, or the trefoil of Jaipūr, are not imperial. Again the power and influence of Muḥammad Akbar II and Bahādur Shāh II, were confined to Fort Dehli. The Dehli rupees of the latter emperor exhibit his title سراج الدين and may be called the imperial type. The coins struck in his name at other mints are quite different, and I see no reason for considering them to be Mughal coins at all.

It is clear that if the science of Mughal numismatics is to be placed on a firm and satisfactory basis, and if progress is to be made on definite lines, this question must be settled in a manner to gain general acceptance. The matter was discussed by a Coin Conference held at Allahabad in December, 1910. It was pointed out that other features, in addition to those as suggested by me above, ought to be carefully scrutinized. The fabric and workmanship of a coin, if crude and clumsy, would be evidence of origin other than imperial. A coin with a collar, rim, or milled edge, could with confidence be assigned to an East India Company. Then too enquiry should be made whether history supplies corroborative evidence of a Mughal emperor having exercised direct control over the locality from which issued any coins assigned to him.

A decision on these lines would mean that each coin would have to be taken on its merits, and in the end experts would probably differ in their opinions. It would be impossible to reconcile individual taste and fancy, even if it were possible in every case to obtain the requisite information. The only practical working plan is to lay down a hard-and-fast rule. Finally the Conference passed the following Resolution :—

"Resolved, that for the purpose of the compilation of a comprehensive treatise on the coins of the Mughal Emperors of India, it is advisable to confine the scope of the work to coins bearing the names of the Mughal Emperors which were struck up to, and including, the year A.D. 1803 (1218 A.H.), the date of the British

occupation of the capital Dehli. As this date is close to the end of the reign of Shāh 'Ālam II, and as many issues bearing the name of this emperor proceed unchanged till the end of the reign, it is convenient to regard these as Mughal during the period intervening between the year A.D 1803 and the date of the death of Shāh 'Ālam II. Only those coins of Muḥammad Akbar II, and Bahādur Shāh II, shall be deemed Mughal issues, which were struck at Dehli (Shāhjahānābād).''

By the application of this rule some coins, which are obviously non-imperial, will be admitted into the Mughal series, but only conventionally, and their number need not be large. The admission of such coins is better than the possible exclusion of true Mughal coins under some alternative principle. It is hoped that this convention will be generally adopted.

The mints which were included in Mr. Burn's Tables, that disappear by the operation of this rule, are Sheopūr and Fīrozpūr only.

I append the following short notes on a few points of interest in connection with the mint towns.

AJMER.—The remarkable zodiacal mohur of Jahāngīr bearing the name of Nūr Jahān, which was struck at Ajmer, is deserving of special mention. It was published by the Hon'ble James Gibbs, C.S.I., in the J.A.S.B. for 1883. The zodiacal sign is Cancer, and the obverse legend runs:—

شاه
بحکم
جهانگیر یافت صد زیور
بیگم
زنام نور جهان بادشاه
اجمیر ۲۰
ضرب ۱۰۳۴

The equally remarkable Sagittarius mohur at Paris, with the name of Nūr Jahān, of Lāhor mint, bears the same obverse inscription with the exception that the last line runs—

ضرب لاهور ۱۰۳۵

As far as I know each coin is still unique, and they are the only known zodiacal coins struck at Ajmer and Lāhor respectively.

A Cancer mohur of dates 1034 A.H., 20 R., of Kashmīr mint, bearing the name of Nūr Jahān, was in the Da Cunha Collection.

SALIMĀBĀD AJMER.—Mr. R. Burn, C.S., read the mint on a copper coin of Akbar dated 982 A.H., from the Ellis Collection, now in the Lucknow Museum, as Salimgarh Ajmer. But from a specimen discovered more recently I read the name as Salimābād Ajmer, and this reading is supported by the existence of a later coin struck at Salīmābād alone—see Paper 80, N.S. XIII. I find that the two Salīmābād Ajmer coins are identical, Mr. Nelson Wright has a third, and Mr. Bleazby had a fourth. The reading Salīmābād is, I think, to be preferred to Salimgarh.

ARKĀT.—Arkāt rupees of Jahāndār Shāh (Paper 84, N.S. XIV), and of Shāh 'Ālam Bahādur I (Paper 69, N.S. XI), have already been published. The dates of the latter coin are 1122 A.H., 4 R., but an even earlier rupee (1120 A.H., 2 R.) was in the Collection of Mr. Eugene Leggett, Karachi.

ISLĀM BANDAR.—A rupee of Aurangzeb of the usual couplet type struck at Islām Bandar has been for some time in the Cabinet of Dr. G. P. Taylor at Ahmadabad. A probable duplicate belongs to Mr. Nelson Wright. Dr. Taylor has shown that Islām Bandar was the name given to Rājapur (راجه پور), a tidal port on the Konkan Coast, thirty miles south-east of Ratnāgiri town.

AKBARĀBĀD.—In a paper entitled 'Rare Mughal Coins' (J.A.S.B., 1896), Mr. C. J. Rodgers described and illustrated a copper coin bearing the name of Shāh Jahān, but undated, and struck at Akbarābād. The inscriptions are those usually found on the large copper coins of Shāh Jahān I of Akbarābād mint, but the general style, and the arrangement and form of the letters especially on the mint side, are different, and I should be inclined on these grounds alone to attribute the coin to Shāh Jahān II. But I find that the reverse (the mint side) is very similar to that of the copper Akbarābād coin of Farrukhsiyar published by me in N.S. XV. I have therefore shown this coin in the new Tables as belonging to Shāh Jahān II, and as such, it is the first copper coin to be attributed to this emperor. A second is one of Sūrat mint—see below.

BĀNDHU.—I had a thick, dumpy rupee of Akbar without date which bore a new couplet. The legends probably ran thus:—

Obverse.

ظله اکبر

سکـــــــه

زد چ

Reverse.

تواتر

قـــــو

باند

ذلعـــــه

بود یا

So the couplet would be :—

زوج سکه الله اکبر

بود تا قعد باشدهو نوابر

Mr. Nelson Wright, C.S., possessed a duplicate, but unfortunately both have been lost. The reading is fairly straightforward except the name of the mint, which Mr. Nelson Wright has suggested may be Bāndhū (or Bāndhūgarh) in Rewah, or the tract known formerly as Bhata. This fortress is mentioned several times in the 'Ain-i-Akbari. It was captured after a siege of over eight months in Akbar's 42nd year.

Baldat-i-Ṣafā.—Several rupees of 'Ālamgīr II were known of a mint tentatively read as Baldat-i-Safā. There seems to be no doubt that this is really Baldat-Bikānir—see N.S. XI and N.S. XV, Papers 69 and 89.

Balkh.—In the Bleazby Collection, recently acquired by the British Museum, there is a remarkable gold coin of Shāh Jahān of Balkh mint, the name being clear and unmistakable. The coin is of the usual 'square area' type, and the mint is in the reverse bottom margin, counting the Kalima side as the obverse. The date is 1057 A.H. This coin is so far a unique specimen bearing numismatic testimony to the Mughal conquest of Balkh in A.D. 1647—see Manucci's Storia Do Mogor, Vol. I, p. 185, and Elphinstone, Book X, Chap. II.

Pattan.—Pattan is a town in the present Baroda State, and was the capital of Gujarāt from about A.D. 750 till the founding of Ahmadābād in A.D. 1411—see 'Imperial Gazetteer of India,' Vol. XX, pp. 24, 25. In Akbar's time the place was known as Anhalwāra Pattan, or Nahrwāla Pattan. Pattan is given in the *'Ain-i-Akbarī* as a copper mint of Akbar; quite recently it has been discovered that Akbar's coins struck at Pattan exist in all three metals. Colonel Vost in N.S. XI published rupees of the Ahmadābād type struck at Nahrwāla Pattan in A.H. 984. One or two *dāms* also of A.H. 984, are known of Pattan with its epithet of *Shahr*; they are exactly similar in style to the Ahmadābād copper coins of the same year. Lastly there can be little doubt that gold muhar Pl. III, 61, of the British Museum Catalogue of Mughal Coins, is of *Shahr* Pattan mint, and not of Sahrind as previously read. The new attribution is supported by the fact that this muhar is dated 984, and is of the Ahmadābād fabric.

Dewal Bandar.—A rupee of Akbar of Dewal mint was first published in the paper 'Some Novelties in Mughal Coins'—Num. Chron., 1896. But fuller specimens show that the name of the mint town is Dewal Bandar. This was a port on the coast of Sind.

Zainu-l-bilād.—Zainu-l-bilād is the name of a mint found on silver coins of Muhammad Shāh, but we do not know as yet

what town or place was meant. Its close resemblance to the honorific epithet Zīnatu-l-bilād adopted by Rafī'u-d-darjāt for Aḥmadābād, would point to this city. The coins are usually of regnal years four, five and six. A half rupee of Muḥammad Shāh struck at Aḥmadābād in regnal year one is known, and rupees of year eight and later regnal years are fairly common, but no Aḥmadābād silver coins have yet been found struck in the regnal years covered by the Zainu-l-bilād series.

SŪRAT.—There is a copper coin of Sūrat mint in the Cabinet of Dr. G. P. Taylor, Ahmadabad, which can be attributed with certainty to Shāh Jahān II. Its dates are 1131 A.H., 1 R., and the inscriptions are as follows:—

Obverse.	*Reverse.*
شاه جهان	احد
	سنه جلوس
شـــــــاه	ضرب
فلوس باد ۱۳۱۰۰۰	سورت

FATḤĀBĀD.—The full name of Fatḥābād mint is Fatḥābād Dhārūr (Dhārwar)—see N.S. II, and N.S. XIII.

FATḤPŪR.—In his paper "Notes on the Zodiacal Rupees and Mohars of Jehanghir Shah" published in the J.A.S.B. for 1878, the Hon'ble James Gibbs, C.S.I., mentions a mohur and a rupee of Fatḥpūr mint. They both exhibit the sign of Aries, and bear the same date 1030 A.H. The author does not give any further details. The coins belonged to Colonel Guthrie, and are now presumably at Berlin.

Mr. C. J. Rodgers described another zodiacal rupee of Fatḥpūr mint—see paper 'Couplets or Baits on the Coins of Shāh Nūru-d-dīn Jahāngīr,' J.A.S.B., 1888. The zodiacal sign was Capricornus, underneath which was سنه ۱۴ جلوس. The couplet on the obverse side was—

رفتحپـــور فـــروزنـــده گشت سکـــه زر
ز نـــور نام جهانگیـــر شاه شاه اکبـــر ۱۰۲۸

'Coin of gold became bright at Fathpūr.
Through the light of the name of Jahāngīr Shāh, son of Shāh Akbar.'

Mr. Rodgers at the time of writing said that the coin was in his possession, but I do not know where it is now; it is not in the British Museum.

KĀLPĪ, KORĀ, AND KŪNCH.—Rupees bearing the name of Shāh 'Ālam II are found in the neighbourhood of Jhānsī, of mints Kālpī, Korā, Kūnch, and of one or two other mints as yet unread. They bear a strong family likeness to each other,

are of the usual couplet type, are Native State coins in style, and are remarkable for the presence of an additional word after the mint name, which comes at the bottom of the coin. This has been read, and I think correctly, as '*hijrī*.' I notice that some at least of these coins exhibit both regnal and *hijrī* dates on the mint side, in addition to the *hijrī* date on the obverse. This fact affords a reasonable explanation for the presence of this unusual word, cp. some rupees of Shāh Jahān.

GULSHANĀBĀD.—Dr. G. P. Taylor has tentatively attributed a rupee of Farrukhsiyar to a new mint Gulshanābād—N.S. XIV, Paper 84. This has been confirmed by the discovery of a second and similar rupee of this mint which is in my own Cabinet.

MĀNGHAR.—I prefer the reading Mānghar for Dr. White King's Mānghīr—see N.S. V, Paper 39.

MUḤAMMADNAGAR.—This mint name of Shāh 'Ālam II has another word coming after it, which Mr. Burn has suggested may be ناندد—see his Introduction to "The Mints of the Mughal Emperors." It cannot be read with certainty on either of the two known specimens.

MULTĀN.—Mr. Nelson Wright, C.S., possesses a unique rupee of Shāh 'Ālam I, Multān mint, with the following legends :—

Obverse.	*Reverse.*
صحمد	مانوس
عالم بادشاه	میمنت
۱۱۱۹	
شـــــــاه	احد
بر مهر و ماه حامي دين	سنه جلوس
سکـــــــه	ضرب
...زد در هفت کشور	ملتان

This is quite a new type of the coins of Shāh 'Ālam I. The couplet strikingly anticipates that adopted by Shāh 'Ālam II, and shows that both these emperors had the same *laqab* حامي دين

MANDISOR.—The new mint of Mandisor is associated with an honorific epithet *Dāru-s-salām*.

MIRATH.—I have preferred the reading Mīrtha for Mirath —see Mr. Nelson Wright's Mint Note in the Introduction to I.M. Cat., Vol. III.

Emperor.	اتاوا Itāwa.			اتک Atak.		
	A	Æ	Æ	A	Æ	Æ
1. Bābur[1]	..	..	..	..	..	..
2. Humāyūn	..	..	..	..	..	..
3. Akbar	..	..	..	..	..	..
4. Jahāngīr	..	..	..	..	..	..
5. Jahāngīr and Nūr Jahān	..	..	..	..	..	..
6. Dāwar Bakhsh ..	..	..	..	..	..	..
7. Shāh Jahān ..	..	..	..	..	..	..
8. Aurangzeb ʻĀlamgīr ..	B.M.	B.M.	..	..	..	..
9. Murād Bakhsh ..	..	..	..	..	..	..
10. Shāh Shujāʻ ..	..	..	..	..	..	..
11. Shāh ʻĀlam Bahādur ..	XI.	I.M.	..	..	..	..
12. Aʻẓam Shāh ..	..	..	..	..	..	..
13. Kām Bakhsh ..	..	..	..	..	..	..
14. Jahāndār Shāh ..	P M.	I.M.	..	..		..
15. ʻAẓīmu-sh-shān ..	..	..	..	..	..	..
16. Farrukhsiyar ..	I.M.	B.M.	..	..	..	..
17. Rafīʻu-d-darjāt ..	..	I.M.	..	..	..	..
18. Rafīʻu-d-daula (Shāh Jahān II).	..	I.M.	..	..	..	..
19. Muḥammad Ibrāhīm ..	..	..	..	..	..	..
20. Muḥammad Shāh ..	B.M.	B.M.	..	..	P.M	..
21. Aḥmad Shāh Bahādur ..	XI.	I.M.	..	..	..	..
22. ʻĀlamgīr II ..	St.	I.M.	..	..	..	..
23. Shāh Jahān III ..	..	..	..	..	..	..
24. Shāh ʻĀlam II ..	..	B.M.	..	..	..	..
25. Bedār Bakht ..	..	..	..	..	..	..
26. Akbar II	..	..	..	..	..	..
27. Bahādur II ..	..	..	..	..	..	..

[1] The reasons for the adoption of this

	اتک			اجمیر					
	اتک بنارس Atak Banāras.			اجمیر Ajmer.			سلیم آباد اجمیر Ajmer, Salīmābād.		
	N	*R*	*E*	*N*	*R*	*E*	*N*	*R*	*E*
1.	..	..	..	..	..	..	..	..	..
2.	..	..	..	..	..	..	..	..	..
3.	..	..	I.M.	..	..	I.M.	..	..	XIII.
4.	..	..	..	B.M.	B.M.	P.M.	..	..	..
5.	..	..	..	..	..	..	..	..	..
6.	..	..	..	..	..	..	..	..	..
7.	..	..	..	..	Bo.	..	..	..	..
8.	..	..	..	B.M.	B.M.	..	..	..	..
9.	..	..	..	..	..	..	..	..	..
10.	..	..	..	..	..	..	..	..	..
11.	..	..	..	..	B.M.	..	..	..	..
12.	..	..	..	..	..	..	..	..	..
13.	..	..	..	..	..	..	..	..	..
14.	..	..	..	..	Sm.	..	..	..	..
15.	..	..	..	..	..	..	..	..	..
16.	..	..	..	XI.	P.M.	..	..	..	..
17.	..	..	..	..	K	..	..	..	..
18.	..	..	..	..	XIV.	..	..	..	..
19.	..	..	..	..	..	..	..	..	..
20.	..	..	..	..	I.M.	..	..	..	..
21.	..	..	..	..	XI.	..	..	..	..
22.	..	..	..	..	W	..	..	..	..
23.	..	..	..	..	..	..	..	..	..
24.	..	..	..	D.C.	I.M.	..	..	..	..
25.	..	..	..	..	..	..	..	..	..
26	..	..	..	..	..	..	..	..	..
27.	..	..	..	..	..	..	..	..	..

spelling are in J.A.S.B., October, 1910.

Emperor.	اجین Ujain.		
	N	Æ	Æ
1. Bābur	..	..	—
2. Humāyūn	..	K	..
3. Akbar	..	I.M.	I.M.
4. Jahāngīr	..	L.M.	..
5. Jahāngīr and Nūr Jahān	..	..	..
6. Dāwar Bakhsh	..	..	..
7. Shāh Jahān	B	I.M.	I.M.
8. Aurangzeb ʻĀlamgīr	I.M	I.M.	P.M.
9. Murād Bakhsh	..	..	..
10. Shāh Shujāʻ	..	..	..
11. Shāhʻālam Bahādur	B.M.	P.M.	..
12. Aʻzam Shāh	..	L.M.	..
13. Kām Bakhsh	..	..	..
14. Jahāndār Shāh	..	T	..
15. ʻAẓīmu-sh-shān	..	..	..
16. Farrukhsiyar	XI.	P.M.	..
17. Rafīʻu-d-darjāt	..	XIV.	..
18. Rafīʻu-d-daula (Shāh Jahān II)	B.M.	..	.
19. Muḥammad Ibrāhīm	..	..	..
20. Muḥammad Shāh	I.M.	P.M.	..
21. Aḥmad Shāh Bahādur	..	..	..
22. ʻĀlamgīr II	..	W	..
23. Shāh Jahān III	..	..	..
24. Shāh ʻĀlam II	..	I.M.	..
25. Bedār Bakht	..	..	..
26. Akbar II	..	..	..
27. Bahādur II — — ..	—	—	—

	احسن آباد AḤSANĀBĀD.			احمدآباد AḤMADĀBĀD.			احمد نگر AḤMADNAGAR.[2]		
	N	*R*	*Æ*	*N*	*R*	*Æ*	*N*	*R*	*Æ*
1.	..	..	..	..	..	..	..	..	..
2.	..	..	..	..	..	..	..	..	..
3.	..	..	..	B.M.	B.M.	B.M.	..	P.M.	..
4.	..	..	..	B.M.	B.M.[1]	R(1)[1]	I.M.[2]	I.M.	B.M.
5.	..		..	P.M.	B.M.	..	..	..	..
6.	..	..	..	..	..	..	.	..	..
7.	..	..	..	B.M.	B.M.	R(1)	..	I.M.	..
8.	I.M.	P.M.	..	XI.	I.M.	T(1)	B.M.	B.M.	..
9	..	..	..	B.M.	B.M.	..	..	..	..
10.	..	..	..	..	..	..	..	..	..
11.	..	F	..	..	D(1)	B.M.	..	I.M.	K
12.	..	..	..	..	B.M.	..	B.M.	VIII.	..
13.	..	K	..	..	..	..	..	..	..
14.	..	..	..	..	D(1)	F	..	XIII.	..
15.	..	..	..	..	..	..	..	..	..
16.	..	..	..	..	I.M.	F	..	W	K
17.	..	..	..	VI.	I.M.	..	..	..	..
18.	..		..	..	T(1)	..	..	..	..
19	..	..	..	..	..	..	..	..	..
20.	..	..	..	XI.	I.M.	T(1)	..	.	..
21.	..	..	..	..	T(1)	..	..	..	..
22.	..	..	..	..	I.M.	..	..	..	..
23.	..	..	..	..	B.M.	..	..	..	..
24.	..	..	..	..	B.M.	W	..	..	..
25.	..	..	..	B.M	I.M.	W	..	..	..
26	..	..	..	..	..	..	..	..	..
27.	..	..	..	..	..	..	..	..	..

[1] Also of Jahāngīr as Salīm: *R*, B.M.; *Æ*, R(1).
[2] Spelt Aḥmadānagar.

Emperor.	ادوني Adoni.			اُدیپور Udaipūr.		
	N	Æ	Æ	N	Æ	Æ
1. Bābur	..	..	..	..	..	..
2. Humāyūn	..	..	..	..	..	..
3. Akbar	..	..	..	B.M.	..	..
4. Jahāngīr	..	..	..	..	..	R(1)
5. Jahāngīr and Nūr Jahān	..	..	..	..	..	..
6. Dāwar Bakhsh.. ..	..	..	..	..	..	..
7. Shāh Jahān ..	..	..	..	..	..	P.M.
8. Aurangzeb ʻĀlamgīr ..	..	F	..	..	..	..
9. Murād Bakhsh ..	..	..	..	..	..	..
10. Shāh Shujāʻ ..	..	..	..	..	..	..
11. Shāhʻālam Bahādur ..	..	..	..	..	..	..
12. Aʻẓam Shāh ..	..	..	..	..	..	..
13. Kām Bakhsh ..	..	..	..	..	..	..
14. Jahāndār Shāh ..	..	..	..	..	..	..
15. ʻAẓīmu-sh-shān ..	..	..	..	..	..	..
16. Farrukhsiyar ..	..	..	..	..	..	..
17. Rafīʻu-d-darjāt ..	..	..	..	..	..	..
18. Rafīʻu-d-daula (Shāh Jahān II).	..	..	..	..	..	..
19. Muḥammad Ibrāhīm ..	..	..	..	..	..	..
20. Muḥammad Shāh ..	..	..	..	..	..	..
21. Aḥmad Shāh Bahādur	..	..	..	..	..	..
22. ʻĀlamgīr II ..	..	..	..	..	..	..
23. Shāh Jahān III ..	..	..	..	..	..	..
24. Shāh ʻĀlam II ..	..	..	..	..	..	..
25. Bedār Bakht ..	..	..	..	..	..	..
26. Akbar II	..	..	..	..	..	..
27. Bahādur II ..	..	..	..	..	..	..

	اُردو URDŪ.			اُردو در راہ دکھن URDŪ DAR RĀH-I-DAKHAN.			اردوئے ظفر قرین URDŪ E ZAFAR QARIN.		
	A	R	E	A	R	E	A	R	E
1.	..	P.M.	..	..	..	..	..	..	..
2.	..	..	..	..	..	..	..	..	..
3.	W	B.M.	..	..	..	..	B.M.	B.M.	B.M.
4.	I.[1]	..	..	..	L.M.	..	.	..	
5.	..	..	..	..	..	..	..	..	..
6.	..	..	..	..	..	..	..	..	..
7.	..	..	..	..	..	..	..	W	..
8.	..	..	..	..	..	..	..	..	..
9.	..	..	..	..	..	..	..	..	..
10.	..	..	..	..	..	..	.	..	..
11.	..	..	..	..	..	..	..	..	..
12.	..	..	..	..	..	..	..	..	..
13.	..	..	..	..	..	..	..	..	..
14.	..	..	..	..	..	..	..	..	..
15.	..	..	..	..	..	..	..	..	
16.	..	..	..	..	..	..	..	..	..
17.	..	..	..	..	..	..	..	..	..
18.	..	..	..	..	..	..	..	..	..
19.	..	..	..	..	..	..	..	..	..
20.	..	..	..	..	..	..	..	..	..
21.	..	..	..	..	..	..	..	..	..
22.	..	..	..	..	..	..	..	..	..
23.	..	..	..	..		..	..	..	..
24.	..	..	..	..	..	..	..	..	..
25.	..	..	..	..	..	..	..	..	..
26.	..	..	..	..	..	..	..	..	..
27.		..	..	..	..	..	..	..	..

[1] Roman numeral.

Emperor.	ارکات Arkāt.			اسلام آباد Islāmābād.		
	N	*R*	*E*	*N*	*R*	*E*
1. Bābur	..	..	..	..	..	..
2. Humāyūn	..	..	..	..	..	..
3. Akbar	..	..	..	..	..	..
4. Jahāngīr	..	..	..	..	.	..
5. Jahāngīr and Nūr Jahān	..	..	..	..	..	..
6. Dāwar Bakhsh ..	..	..	..	..	..	..
7. Shāh Jahān ..	..	..	..	..	..	..
8. Aurangzeb ʻĀlamgīr ..	..	..	..	P M.	I.M.	..
9. Murād Bakhsh ..	..	..	..	..	..	..
10. Shāh Shujāʻ ..	..	..	..	..	..	..
11. Shāhʻālam Bahādur ..	..	P.M.	..	..	..	..
12. Aʻẓam Shāh ..	..	..	..	..	..	..
13. Kām Bakhsh ..	..	..	..	..	..	..
14. Jahāndār Shāh	..	P.M.	..	..	..	.
15. ʻAẓīmu-sh-shān ..	..	..	..	..	..	..
16. Farrukhsiyar ..	XI.	B.M.	..	B.M.	P.M.	..
17. Rafīʻu-d-darjāt ..	..	..	..	..	..	..
18. Rafīʻu-d-daula (Shāh Jahān II).	P.M.	..	..	..	P.M.	..
19. Muḥammad Ibrāhīm ..	..	..	..	..	..	..
20. Muḥammad Shāh ..	St	I.M.	..	I.M.	B.M.	.
21. Aḥmad Shāh Bahādur	..	T	..	Bo.	P.M.	..
22. ʻĀlamgīr II ..	B.M.	B.M.	..	P.M.	XI.	..
23. Shāh Jahān III ..	..	..	..	B.M.	..	..
24. Shāh ʻĀlam II ..	.	B.M.	B.M.	B.M.	Wh.	R(1)
25. Bedār Bakht ..	..	..	..	..	..	..
26. Akbar II	..	..	..	..	..	..
27. Bahādur II ..	..	..	..	..	..	..

	اسلام بندر Islām Bandar.			اسمعیل گڑھ Isma'ilgarh			اسیر Asir.		
	Ⱥ	Ɽ	Æ	Ⱥ	Ɽ	Æ	Ⱥ	Ɽ	Æ
1.	..	..	..	..	..	..	..	..	..
2.	..	..	..	..	..	..	..	..	..
3.	..	..	..	..	..	..	B.M.	..	..
4.	..	..	..	..	..	..	..	..	..
5.	..	..	..	..	..	..	..		..
6.	..	..	..	..	..	..	..	..	..
7.	..	..	..	..	..	..	..	..	..
8.	..	T	..	..	..	..	..	.	..
9.		..	..	..	..	..	..	..	..
10.	..	..	..	..	..	..	..	..	..
11.	..	..	..	..	..	..	..	..	..
12.	..	..	..	..	..	..	..	..	..
13.	..	..	..	..	..	..	..	..	..
14.	..	..	..	..	..	..	..	..	..
15.	..	..	..	..	..	..	..		..
16.	..	..	..	..	..	..	..	..	..
17.	..	..	..	..	..	..	..	..	..
18.	..	..	..	..	..	..	..	..	..
19.	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	..
21.	..	..	..	..	..	..	..	..	..
22.	..	..	..	..	..	..	..	..	..
23.	..	..	..	..	..	..	..	..	..
24.	..	..	..	..	XV.	P.M.	..	..	..
25.	..	..	..	..	..	..	..	..	..
26.	..	..	..	..	..	..	..	..	..
27.	..	..	..	..	..	..	..	..	..

Emperor.	اعظم نگر					
	اعظم نگر A'ẓamnagar.			اعظم نگر گوکل گڑھ A'ẓamnagar Gokulgaṛh.		
	N	R	E	N	R	E
1. Bābur	..	..	..	..	..	..
2. Humāyūn	..	..	..	..	..	..
3. Akbar	..	..	..	..	..	..
4. Jahāngīr	..	..	..	..	..	..
5. Jahāngīr and Nūr Jahān	..	..	..	..	..	..
6. Dāwar Bakhsh ..	..	..	..	..	..	..
7. Shāh Jahān ..	..	..	..	..	..	..
8. Aurangzeb 'Ālamgīr ..	..	XV.	K	..	..	..
9. Murād Bakhsh ..	..	..	..	..	..	..
10. Shāh Shujā' ..	..	..	..	..	..	..
11. Shāh 'Ālam Bahādur ..	..	..	..	..	..	..
12. A'ẓam Shāh ..	..	..	..	..	..	..
13. Kām Bakhsh ..	..	..	..	..	..	..
14. Jahāndār Shāh ..	..	..	..	..	..	..
15. 'Aẓīmu-sh-shān ..	..	..	..	..	..	..
16. Farrukhsiyar ..	..	B.M.	..	..	XIV.	..
17. Rafī'u-d-darjāt ..	..	..	..	..	..	..
18. Rafī'u-d-daula (Shāh Jahān II).	..	..	..	..	..	..
19. Muḥammad Ibrahīm ..	..	..	..	..	..	..
20. Muḥammad Shāh ..	..	..	..	..	P.M.	..
21. Aḥmad Shah Bahādur	..	..	..	..	..	..
22. 'Ālamgīr II ..	..	..	..	..	..	..
23. Shāh Jahān III ..	..	..	..	..	..	..
24. Shāh 'Ālam II ..	..	..	..	..	..	..
25. Bedār Bakht ..	..	..	..	..	..	.
26. Akbar II	..	..	..	..	..	..
27. Bahādur II ..	..	..	..	..	..	..

	اکبر اباد Akbarābād.			اکبر پور Akbarpūr.			اکبرپور تانده Akbarpūr Tānda.		
	Ⱥ	Ⱥ	Æ	Ⱥ	Ⱥ	Æ	Ⱥ	Ⱥ	Æ
1.	..	..	..	..	..	..	..	..	..
2.	..	..	..	..	..	..	..	..	..
3.	..	..	..	..	..	I.M.	..	P.M.	I.M.
4.	..	..	..	..	..	..	..	..	..
5.	..	..	..	..	..	..	..	..	..
6.	..	..	..	..	..	..	..		..
7.	B.M.	B.M.	I.M.	..	..	..	..		..
8.	XI.	B.M.	I.M.	..	..	..	..	..	..
9.	..	..	..	..	..	..	..	..	..
10.	..	..	..	..	..	..	..	..	..
11.	B.M.	B.M.	..	..	..	..	..	..	..
12.	..	..	..	..	..	..	..	..	..
13.	..	..	..	..	..	..			..
14.	B.M.	B.M.	..	..	B.M.	..	..	..	..
15.	..	..	..	..	..		..	..	..
16.	I.M.	B.M.	XV.	..	..	..	..	..	..
17.	XV.	B.M.	..	..	..	..	..	..	..
18.	XI.	B.M.	R(2)	..	..	..	..	..	..
19.	..	..	..	..	..	..		..	..
20.	B.M.	B.M.	..	..	..	..	..	..	..
21.	I.M.	B.M.	..	..	..	..	..	..	..
22.	XI.	I.M.	..	..	..	..	..	..	..
23.	..	R(3)	..	..	..	..	..	..	..
24.	XI.	B.M.	R(1)	..	..	K	..	..	
25.	..	..	..	..	..	..	..		..
26.	..	..	..	..	..	..	..	..	..
27.	..	..	..	..	..	..	..		..

Emperor.	اکبر نگر Akbarnagar.			آگرہ Āgra.		
	Ⱥ	Ɽ	Æ	Ⱥ	Ɽ	Æ
1. Bābur	..	..	..	..	P.M.	I.M.
2. Humāyūn	..	..	..	..	P.M.	I.M.
3. Akbar	P.M.	L.M.	K	B.M.	B.M.	B.M.
4. Jahāngīr	..	B.M.	..	B.M.	B.M.	B.M.
5. Jahāngīr and Nūr Jahān	..	L.M.	..	..	B.M.	..
6 Dāwar Bakhsh ..	..	..	..	..	..	..
7. Shāh Jahān ..	XI.	B.M.	..	I.M.	B.M.	..
8. Aurangzeb, ʻĀlamgīr ..	B.M.	B.M.	B.M.	..	..	..
9. Murād Bakhsh ..	..	..	..	..	..	..
10. Shāh Shujāʻ ..	..	L.M.	..	..	..	..
11. Shāh ʻĀlam Bahādur ..	..	I.M.	B		..	..
12. Aʻẓam Shāh ..	..	..	..	..	..	..
13. Kām Bakhsh ..	..	..	..	..	..	..
14. Jahāndār Shāh ..	..	B.M.	..	..	..	..
15. ʻAẓīmu-sh-shān ..	..	..	..	..	..	..
16. Farrukhsiyar ..	..	W	..		..	..
17. Rafīʻu-d-darjāt ..	..	..		..	..	..
18. Rafīʻu-d-daula (Shāh Jahān II).	..	..	..	..	..	..
19. Muḥammad Ibrāhīm ..	..	..	..	..	..	..
20. Muḥammad Shāh ..	..	I.M.	..	..	..	..
21 Aḥmad Shāh Bahādur	..	I.M.	..	..	..	..
22. ʻĀlamgīr II ..	..	I.M.	..	..		..
23 Shāh Jahān III ..	..	..	..	..	..	..
24. Shāh ʻĀlam II ..	..	..	..	..	..	..
25. Bedār Bakht ..	..	..	..	..	..	..
26 Akbar II	..	..	..	..	..	..
27. Bahādur II ..	..	..	..	..	..	..

	الور ALWAR.			الہ آباد					
				الہ آباد ILAHĀBĀD.			الہاباس ILAHĀBĀS.		
	N	Æ	Æ	N	Æ	Æ	N	Æ	Æ
1.	..	..	..	..	..	..	..	.	..
2.	..	..	..	..	..	..	..	..	..
3.	..	W	I.M.	..	B.M.	..	..	..	B.M.
4.	..	..	..	..	P.M.	..	..	..	..
5.	..	..	..	..	..	..	..	..	..
6.	..	..	..	..	..	..	..	.	..
7.	..	..	..	XV.	B.M.	K	..	..	..
8.	..	..	..	I.M.	I.M.	..	..	..	..
9.	..	..	..	..	..	.	..	..	..
10.	..	..	..	..	..	..	..	..	..
11.	..	..	..	..	I.M.	..	..	..	..
12.	..	..	..	..	..	..	..	..	..
13.	..	..	..	..	..	..	..	..	..
14.	..	..	..	..	..	..	..	..	..
15.	..	..	..	..	..	..	..	..	..
16.	..	..	..	P.M.	I.M.	..	..	..	..
17.	..	..	..	..	..	..	..	..	..
18.	..	..	..	..	..	..	..	..	..
19.	..	..	..	..	..	..	..	..	..
20.	...	..	..	St.	*B.M.*	..	..	..	..
21.	..	..	..	..	I.M	..	..	..	..
22.	..	..	..	..	I.M.	..	..	..	..
23.	..	..	..	..	..	..	..	..	..
24.	..	..	..	..	W	..	..	..	..
25.	..	..	..	..	..	..	..	..	..
26.	..	..	..	..	..	..	..	..	..
27.	..	..	..	..	..	..	..	..	..

Emperor.	امتیاز گڑھ Imtiyāzgaṛh.			امیر کوٹ Amīrkoṭ.		
	Ⱥ	Ɍ	Ɇ	Ⱥ	Ɍ	Ɇ
1. Bābur	..	..	..	..	..	..
2. Humāyūn	..	..	..	..	..	..
3. Akbar	..	..	..	..	..	I.M.
4. Jahāngīr	..	..	..	..	..	..
5. Jahāngir and Nūr Jahān	..	..	..	..	..	..
6. Dāwar Bakhsh ..	..	..	..	..	..	..
7. Shāh Jahān ..	..	..	..	..	..	..
8. Aurangzeb ʻĀlamgīr ..	..	P.M.	..	..	..	..
9. Murād Bakhsh ..	..	..	..	..	..	..
10. Shāh Shujāʻ ..	..	..	..	..	..	..
11. Shāhʻālam Bahādur ..	..	T	..	..	..	..
12. Aʻẓam Shāh ..	..	..	..	..	..	..
13. Kām Bakhsh ..	..	..	..	..	..	..
14. Jahāndār Shāh ..	..	..	..	..	..	..
15. ʻAẓīmu-sh-shān ..	..	..	..	..	..	..
16. Farrukhsiyar ..	B.M.	XIII.	..	..	..	..
17. Rāfīʻu-d-darjāt ..	..	..	..	..	..	..
18. Rafīʻu-d-daula (Shāh Jahān II).	..	..	..	..	..	..
19. Muḥammad Ibrāhīm ..	..	..	..	..	..	..
20. Muḥammad Shāh ..	B.M.	..	..	..	..	..
21. Aḥmad Shāh Bahādur	..	I.M.	..	..	..	..
22. ʻĀlamgīr II ..	B.M.	B.M.	..	..	..	..
23. Shāh Jahān III ..	..	..	..	..	..	..
24. Shāh ʻĀlam II ..	..	..	..	..	..	..
25 Bedār Bakht ..	..	..	..	..	..	..
26. Akbar II	..	..	..	..	..	..
27. Bahādur II ..	..	..	..	..	..	..

	انوپ نگر شاہ آباد ANŪPNAGAR, ŚHĀHĀBĀD.			اودھ								
				اختر نگر اودھ AKHTARNAGAR AWADH.			خطہ اودھ KHITA, AWADH.			صوبہ اودھ ŚŪBA AWADH.		
	N	*R*	*Æ*	*N*	*R*	*Æ*	*N*	*R*	*Æ*	*N*	*R*	*Æ*
1.	..	..	..	..	..	..	..	..	..	..	..	..
2.	..	..	..	..	..	..	..	..	..	..	..	..
3.	..	..	..	..	..	..	..	..	I.M.	..	..	..
4.	..	..	..	..	..	..	..	..	..	..	..	..
5.	..	..	..	..	..	..	..	..	..	..	..	..
6.	..	..	..	.	..	..	..	..	..	..	..	..
7.	..	..	..	..	..	..	..	..	..	..	..	..
8.	..	..	..	..	..	..	..	..	..	..	..	..
9.	..	..	..	..	..	..	..	..	..	..	..	..
10.	..	..	..	..	..	..	..	..	..	..	..	..
11.	..	..	..	..	..	..	..	..	..	..	..	..
12.	..	..	..	..	..	..	..	..	..	..	..	..
13.	..	..	..	..	..	..	..	..	..	..	..	..
14.	..	..	..	..	..	..	..	..	..	..	..	..
15.	..	..	..	..	..	..	..	..	..	..	..	..
16.	..	..	..	..	..	..	..	..	..	..	..	..
17.	..	..	..	..	..	..	..	..	..	..	..	..
18.	..	..	..	..	..	..	..	..	..	..	..	..
19.	..	..	..	..	..	..	..	..	..	..	..	..
20.	..	..	..	I.M.	B.M.	..	..	..	..	..	..	..
21.	..	..	..	..	..	..	..	..	..	..	..	..
22.	..	..	..	..	..	..	..	..	..	..	..	..
23.	..	..	..	..	..	..	..	..	..	..	..	..
24.	..	W	..	..	..	..	..	..	..	P.M.	..	..
25.	..	..	..	..	..	..	..	..	..	..	..	..
26.	..	..	..	..	..	..	..	..	..	..	..	..
27.	..	..	..	..	..	..	..	..	..	..	..	..

Emperor.	اورچهه Orchha.			اورنگ اباد Aurangābād.		
	N	R	E	N	R	E
1. Bābur	..	..	..	..	..	..
2. Humāyūn	..	..	..	..	..	..
3. Akbar	..	..	..	..	..	..
4. Jahāngīr	..	..	..	..	..	.
5. Jahāngīr and Nūr Jahān	..	..	..	..	..	..
6. Dāwar Bakhsh ..	..	..	..	..	..	..
7. Shāh Jahān ..	..	..	..	..	..	..
8. Aurangzeb ʻĀlamgīr ..	..	..	..	B.M.	B.M.	T
9. Murād Bakhsh ..	..	..	..	..	..	..
10. Shāh Shujāʻ ..	..	..	..	..	..	..
11. Shāh ʻĀlam Bahādur ..	..	..	..	..	..	..
12. Aʻzam Shāh ..	..	..	..	..	..	..
13. Kām Bakhsh ..	..	..	..	..	..	..
14. Jahāndār Shāh ..	..	..	..	..	..	..
15. ʻAẓīmu-sh-shān ..	..	..	..	..	..	..
16. Farrukhsiyar ..	..	..	..	..	..	..
17. Rafīʻu-d-darjāt ..	..	..	..	..	..	..
18. Rafīʻu-d-daula (Shāh Jahān II).	..	..	..	..	..	..
19. Muḥammad Ibrāhīm ..	..	..	..	..	..	..
20. Muḥammad Shāh ..	..	..	..	P.M.	..	..
21. Aḥmad Shāh Bahādur	..	..	..	..	..	..
22. ʻĀlamgīr II ..	..	..	..	..	..	..
23. Shāh Jahān III ..	..	..	..	..	..	..
24. Shāh ʻAlam II ..	..	I.M.	B.M.	..	..	..
25. Bedār Bakht ..	..	..	..	..	..	..
26. Akbar II	..	..	..	..	..	..
27. Bahādur II ..	..	..	..	..	..	..

	اورنگ نگر AURANGNAGAR.			آوسا AUSÁ.			انوله ANWALA (AONLA).		
	A'	Æ	Æ	A'	Æ	Æ	A'	Æ	Æ
1.	..	..	..	..	..	..	..	..	..
2.	..	..	..	..	..	..	..	..	..
3.	..	..	..	..	..	..	..	..	..
4.	..	..	..	..	..	..	..	..	..
5.	..	..	..	..	..	..	..	..	..
6.	..	..	..	..	..	..	..	..	..
7.	..	K	..	..	..	..	..	..	..
8.	..	..	..	..	..	..	..	..	..
9.	..	..	..	..	..	..	..	..	..
10.	..	..	..	..	..	..	..	..	..
11.	..	..	..	..	I.M.	..	..	..	..
12.	..	..	..	..	..	..	..	..	..
13.	..	..	..	..	..	..	..	..	..
14.	..	..	..	..	..	..	..	..	..
15.	..	..	..	..	..	..	..	..	..
16.	..	T	..	..	..	..	..	..	..
17.	..	..	..	..	..	..	..	..	..
18.	..	..	..	..	..	..	..	..	..
19.	..	..	..	..	..	..	..	..	..
20.	..	..	..	..	XIV.	..	..	..	..
21.	..	..	..	..	..	..	..	..	..
22.	..	T	..	..	W	..	..	..	..
23.	..	..	..	..	..	..	..	..	..
24.	..	W	..	..		..	..	I.M.	..
25.	..	..	..	..	..	..	..	..	..
26.	..	..	..	..	..	..	..	..	..
27.	..	..	..	..	..	..	..	..	

Emperor.	ایلچپور Elichpūr.			بالا پور Bālāpūr.		
	N	R	E	N	R	E
1. Bābur	..	..	..	..	..	..
2. Humāyūn	..	..	..	..	..	..
3. Akbar	..	XI.	..	..	XI.	..
4. Jahāngīr	..	P.M.	..	..	..	..
5. Jahāngīr and Nūr Jahān	..	..	..	..	..	..
6. Dāwar Bakhsh	..	..	..	..	..	..
7. Shāh Jahān ..	..	..	L	..	..	..
8. Aurangzeb ʻĀlamgīr ..	..	I.M.	H(1)	..	..	..
9. Murād Bakhsh ..	..	..	..	..	..	..
10. Shāh Shujāʻ ..	..	..	..	..	..	..
11. Shāh ʻĀlam Bahādur ..	..	P.M.	H(1)	..	..	..
12. Aʻẓam Shāh ..	..	..	..	..	..	..
13. Kām Bakhsh ..	..	..	..	..	..	..
14. Jahāndār Shāh ..	..	K	..	..	..	..
15. ʻAẓīmu-sh-shān ..	..	..	..	..	..	..
16 Farrukhsiyar ..	..	I.M.	..	..	..	..
17. Rafīʻu-d-darjāt ..	..	..	..	..	..	..
18. Rafīʻu-d-daula (Shāh Jahān II).	..	..	..	..	..	..
19. Muḥammad Ibrāhīm ..	..	..	..	..	..	..
20. Muḥammad Shāh ..	..	VIII.	I.M.	D(1)	..	..
21. Aḥmad Shāh Bahādur	..	..	H(1)	..	..	..
22. ʻĀlamgīr II ..	..	..	H(1)	..	..	..
23. Shāh Jahān III ..	..	..	..	..	..	..
24. Shāh ʻĀlam II ..	..		H(1)	..	..	..
25. Bedār Bakht ..	..	..	..	..	..	..
26. Akbar II	..	..	..	..	..	..
27. Bahādur II ..	..	..	..	..	..	..

	بالانگر گڑھا Bālānagargaḍha.			باندھو Bāndhū.			بداون Budāon.		
	Ā	Ā	Æ	Ā	Ā	Æ	Ā	Ā	Æ
1.	..	..	..	..	..	..	..	..	..
2.	..	..	..	..	..	..	..	..	..
3.	..	..	..	..	W	..	..	..	W
4.	..	..	..	..	..	..	..	..	..
5.	..	..	..	..	..	..	..	..	..
6.	..	..	..	..	..	..	..	..	..
7.	..	..	..	..	..	.	..	..	..
8.	..	..	..	..	..	..	..	..	..
9.	..	..	..	..	..	..	..	..	..
10.	..	..	..	..	..	..	..	..	..
11.	..	..	..	..	..	..	..	..	..
12.	..	..	..	..	..	..	..	..	..
13.	..	..	..	..	..	..	..	..	..
14.	..	..	..	..	..	..	..	..	..
15.	..	..	..	..	..	..	..	..	..
16.	..	..	..	..	..	..	..	..	..
17.	..	..	..	..	..	..	..	.	..
18.	..	..	..	..	..	..	..		..
19.	..	..	..	..	..	..	..	..	..
20.	..	..	..	..	..	..	..	..	..
21.	..	..	..	..	..	..	..	..	..
22.	..	..	..	..	..	..	..	..	..
23.	..	..	..	..	..	..	..	..	..
24.	..	P.M	..	..	..	..	..	..	..
25.	..	..	..	..	..	..	..	..	..
26.	..	..	..	..	..	..	..	..	..
27.	..	..	..	..	..	..	..	..	..

Emperor.	برج اندر پور Braj Indrapūr.			بروده Baroda.		
	N	R	E	N	R	E
1. Bābur	..	..	..	..	..	..
2. Humāyūn	..	..	..	..	..	..
3. Akbar	..	..	..	..	..	..
4. Jahāngīr	..	..	..	..	..	..
5. Jahāngīr and Nūr Jahān	..	..	..	..	..	..
6. Dāwar Bakhsh ..	..	..	..	..	..	..
7. Shāh Jahān ..	..	..	..	..	..	..
8. Aurangzeb ʻĀlamgīr ..	..	..	..	..	..	..
9. Murād Bakhsh ..	..	..	..	..	..	..
10. Shāh Shujāʻ ..	..	..	..		..	..
11. Shāh ʻĀlam Bahādur ..	..	..	..		..	..
12. Aʻẓam Shāh ..	..	..	..	..	..	..
13. Kām Bakhsh ..	..	..	..	..	..	..
14. Jahāndār Shāh ..	..	..	..	..	..	..
15. ʻAẓīmu-sh-shān ..	..	..	..	..	..	..
16. Farrukhsiyar ..	..	..	..	..	..	..
17. Rafīʻu-d-darjāt ..	..	..	..	..	..	..
18. Rafīʻu-d-daula (Shāh Jahān II).	..	..	..	..	..	..
19. Muḥammad Ibrāhīm ..	..	..	..	..	..	..
20. Muḥammad Shāh ..	..	..	..	..	..	..
21. Aḥmad Shāh Bahādur	..	..	..	..	..	..
22. ʻĀlamgīr II ..	..	..	..	..	..	..
23. Shāh Jahān III ..	..	..	..	..	..	..
24. Shāh ʻĀlam II ..	..	I.M.	..	..	B.M.	P.M.
25. Bedār Bakht ..	..	..	..	..	..	..
26. Akbar II	..	..	..	..	.	.
27. Bahādur II ..	..	..	..	..	..	..

	برهانپور Burhānpūr.			بریلي					
				بریلی Bareli.			آصف اباد بریلی Bareli, Āṣafābād.		
	N	*R*	*E*	*N*	*R*	*E*	*N*	*R*	*E*
1.	..	..	..	..	..	..	..	..	..
2.	..	..		..	..	..	..	..	..
3.	I.M.	B.M.	P.M.	..	..	..	..	..	..
4.	B.M.	I.M.	..	..	..	..	..	..	..
5.	..	..	..	..	..	..	..	..	..
6.	..	..	..	..	..	..	..	..	..
7.	B.M.	B.M.	..	..	..	..	..	..	..
8.	B.M.	B.M.	V.[1]	..	B.M.	..	..	..	..
9.	..	..	..	..	..	..	..	..	..
10.	..	..	..	..	..	..	..	..	..
11.	B.M.	B.M.	..	..	I.M.	..	..	..	..
12.	B.M.	B.M.	..	..	..	..	..	..	..
13.	..	..	..	..	..	..	..	..	..
14.	VI.	P.M.	..	..	I.M.	..	..	..	..
15.	..	..	..	..	..	..	..	..	..
16.	B.M.	I.M.	..	St.	I.M.	..	..	..	..
17.	..	K	..	..	W	..	..	..	..
18.	XV.	XIV.	..	..	B.M.	..	..	..	..
19.	..	..	..	..	..	..	..	..	..
20	XI.	I.M.	..	..	B.M.	..	..	..	..
21.	I.M.	I.M.	.	..	I.M.	..	..	..	..
22.	..	P M.	..	L.M.	I M.	..	..	..	..
23.	..	..	..	..	..	..	..	..	..
24.	L.M.	I.M.	K	.	I.M.	I.M.	..	P.M.	..
25.	..	..	..	..	..	..	..	..	..
26.	..	..	..	.	..	..	..	..	..
27.	..	..	..	.	..	..	..	..	..

[1] Roman numeral.

Emperor.	بسولی Bisauli.			بکانر Bikānir.		
	N	R	E	N	R	E
1. Bābur	..	..	..	..	..	..
2. Humāyūn	..	..	..	..	..	..
3. Akbar	..	..	..	..	..	..
4. Jahāngīr	..	..	..	..	..	..
5. Jahāngīr and Nūr Jahān	..	..	..	..	..	..
6. Dāwar Bakhsh ..	..	..	..	..	..	..
7. Shāh Jahān ..	..	..	..	..	..	..
8. Aurangzeb ʻĀlamgīr ..	..	..	..	..	..	..
9. Murād Bakhsh ..	..	..	..	..	..	..
10. Shāh Shujāʻ ..	..	..	..	..	..	..
11. Shāh ʻĀlam Bahādur ..	..	..	..	..	..	..
12. Aʻẓam Shāh ..	..	..	..	..	..	..
13. Kām Bakhsh ..	..	..	..	..	..	..
14. Jahāndār Shāh ..	..	..	..	..	..	..
15. ʻAẓīmu-sh-shān ..	..	..	..	..	..	..
16. Farrukhsiyar ..	..	..	..	..	..	..
17. Rafīʻu-d-darjāt ..	..	..	..	..	..	..
18. Rafīʻu-d-daula (Shāh Jahān II).	..	..	..	..	..	..
19. Muḥammad Ibrāhīm ..	..	..	..	..	..	..
20. Muḥammad Shāh ..	..	..	..	..	..	..
21. Aḥmad Shāh Bahādur	..	..	..	..	..	..
22. ʻĀlamgīr II ..	..	..	..	..	XI.	..
23. Shāh Jahān III ..	..	..	..	..	..	..
24. Shāh ʻĀlam II ..	..	K	..	..	..	..
25. Bedār Bakht ..	..	..	..	..	..	..
26. Akbar II	..	..	..	..	..	..
27. Bahādur II ..	..	..	..	..	..	..

	بلخ Balkh.			بلونت نگر Balwantnagar.			محمدآباد بنارس Banāras (Muḥammadābād).		
	N	*R*	*Æ*	*N*	*R*	*Æ*	*N*	*R*	*Æ*
1.	..	..	..	..	..	..	..	..	..
2.	..	..	..	..	..	..	..	..	..
3.	..	..	..	..	..	..	..	..	..
4.	..	..	..	..	..	..	..	..	..
5.	..	..	..	..	..	..	..	..	..
6.	..	..	..	..	..	..	..	..	..
7.	B.M.	..	..	..	..	..	..	..	..
8.	..	..	..	..	..	..	..	..	..
9.	..	..	..	..	..	..	..	..	..
10.	..	..	..	..	..	..	..	..	..
11.	..	..	..	..	..	..	..	..	..
12.	..	..	..	..	..	..	..	..	..
13.	..	..	..	..	..	..	..	..	..
14.	..	..	..	..	..	..	..	..	..
15.	..	..	..	..	..	..	..	..	..
16.	..	..	..	..	..	..	..	..	..
17.	..	..	..	..	..	..	..	..	..
18.	..	..	..	..	..	..	..	..	..
19.	..	..	..	..	..	..	..	..	..
20.	..	..	..	..	XIII.	..	I.M.	B.M.	..
21.	..	..	..	..	P.M.	..	B.M.	B.M.	..
22.	..	..	..	..	P.M.	..	I.M.	I.M.	..
23.	..	..	..	..	..	..	..	..	..
24.	..	..	..	..	P.M.	..	B.M.	B.M.	R(2)
25.	..	..	..	..	..	..	..	..	..
26.	..	..	..	..	..	..	..	..	..
27.	..	..	..	..	—	..	..	..	..

Emperor.	بندربن					
	بندربن Bindraban.			مومن اباد بندربن Bindraban Mūminābād.		
	N	R	E	N	R	E
1. Bābur	..	..	..	..	..	..
2. Humāyūn	..	..	..	..	..	..
3. Akbar	..	..	..	..	..	..
4. Jahāngīr	..	..	..	..	..	..
5. Jahāngīr and Nūr Jahān	..	..	..	..	..	..
6. Dāwar Bakhsh ..	..	..	.	..	..	..
7. Shāh Jahān ..	..	..	..	..	..	..
8. Aurangzeb ʻĀlamgīr ..	..	..	..	..	..	.
9. Murād Bakhsh ..	..	..	..	..	..	..
10. Shāh Shujāʻ ..	..	..	..	..	..	..
11. Shāh ʻĀlam Bahādur ..	..	..	..	..	..	..
12. Aʻẓam Shāh ..	..	..	..	..	..	.
13. Kām Bakhsh ..	..	..	..	..	..	..
14. Jahāndār Shāh ..	..	..	..	..	..	..
15. ʻAẓīmu-sh-shān ..	..	..	..	..	..	..
16. Farrukhsiyar ..	..	..	..	..	..	..
17. Rafīʻu-d-darjāt ..	..	..	..	..	..	..
18. Rafīʻu-d-daula (Shāh Jahān II).	..	..	..	..	..	..
19. Muḥammad Ibrāhīm ..	..	..	..	..	..	..
20. Muḥammad Shāh ..	..	..	..	..	..	..
21. Aḥmad Shāh Bahādur	..	..	..	..	..	..
22. ʻĀlamgīr II ..	..	..	..	..	..	..
23. Shāh Jahān III ..	..	..	..	..	..	..
24. Shāh ʻĀlam II ..	..	..	P.M.	..	P.M.	..
25. Bedār Bakht ..	..	..	..	..	..	..
26. Akbar II	..	..	..	..	..	..
27. Bahādur II ..	..	..	..	..	..	..

	بندر شاهی Bandar Shāhī.			بنکاپور Bankāpūr.			بنگاله Bangāla.		
	N	R	Æ	N	R	Æ	N	R	Æ
1	..	..	..	..	..	..	..	..	..
2.	..	..	..	..	..	..	..	..	..
3.	..	..	P.M.	..	..	..	..	I.M.	..
4.	..	..	..	..	..	..	..	..	..
5.	..	..	..	..	..	..	..	..	..
6.	..	..	..	..	..	..	..	..	..
7.	..	..	..	..	..	..	..	..	..
8.	..	..	..	..	XV.	..	..	..	..
9.	..	..	..	..	..	..	..	..	..
10.	..	..	..	..	.	..	..	.	..
11.	..	..	..	..	T	..	..	..	..
12.	..	..	..	..	..	..	..	..	..
13.	..	..	..	..	..	..	..	..	..
14.	..	..	..	..	..	..	..	..	..
15.	..	..	..	..	..	..	..	..	..
16.	..	..	..	..	XIV.	..	..	..	..
17.	..	..	..	..	..	..	..	..	..
18.	..	..	..	..	..	..	..	..	..
19.	..	..	..	..	..	..	..	..	..
20.	..	..	..	..	..	..	..	..	..
21.	..	..	..	..	..	..	..	..	..
22.	..	..	..	..	..	..	..	..	..
23.	..	..	..	..	..	..	..	..	..
24.	..	..	..	..	..	..	..	..	..
25.	..	..	..	..	..	..	..	..	..
26.	..	..	..	..	..	..	..	..	..
27.	..	..	..	..	..	..	..	..	..

Emperor.	بہادر پٹن Bahādurpatan.			بہادر گڑھ Bahādurgarh.		
	Ⱥ	Ɽ	Æ	Ⱥ	Ɽ	Æ
1. Bābur	..	..	..	..	..	..
2. Humāyūn ..	..	..	..	..	..	..
3. Akbar	..	..	..	..	..	..
4. Jahāngīr	..	..	..	..	..	..
5. Jahāngīr and Nūr Jahān	..	..	..	..	..	..
6. Dāwar Bakhsh ..	..	..	..	..	..	..
7. Shāh Jahān ..	..	..	..	..	..	..
8. Aurangzeb ʻĀlamgīr ..	..	..	..	..	..	..
9. Murād Bakhsh ..	..	..	..	..	..	..
10. Shāh Shujāʻ ..	..	..	..	..	..	..
11. Shāh ʻĀlam Bahādur ..	..	..	..	..	T	..
12. Aʻẓam Shāh ..	..	..	..	..	..	..
13. Kām Bakhsh ..	..	..	..	..	..	..
14. Jahāndār Shāh ..	..	..	..	..	P.M.	
15. ʻAẓīmu-sh-shān ..	..	..	..	..	..	..
16. Farrukhsiyar ..	..	..	..	..	K	
17. Rafīʻu-d-darjāt ..	..	..	..	..	..	
18. Rafīʻu-d-daula (Shāh Jahān II).	..	..	..	..	..	..
19. Muḥammad Ibrāhīm ..	..	..	..	..	..	..
20. Muḥammad Shāh ..	..	..	..	..	..	..
21. Aḥmad Shāh Bahādur	..	..	..	..	..	..
22. ʻĀlamgīr II ..	..	..	..	..	..	..
23. Shāh Jahān III ..	..	..	..	..	..	..
24. Shāh ʻĀlam II ..	B.M	..	..	..	..	..
25. Bedār Bakht ..	..	..	..	..	..	..
26. Akbar II	..	..	..	..	..	..
27. Bahādur II ..	..	..	..	..	..	..

	بهرائچ Bahrāich.			بهرت پور Bharatpūr.			بهروچ Bharoch.		
	N	Æ	Æ	*N*	Æ	Æ	*N*	Æ	Æ
1.	..	..	..	..	..	..	..	..	..
2.	..	..	..	..	..	..	..	..	..
3.	..	..	I.M.	..	..	..	..	..	..
4.	..	..	..	..	..	..	..	..	..
5.	..	..	..	..	..	..	..	..	..
6.	..	..	..	..	..	..	..	..	..
7.	..	..	..	..	..	..	..	..	..
8.	..	..	..	..	..	..	..	..	..
9.	..	..	..	..	..	..	..	..	..
10.	..	..	..	..	..	..	..	..	..
11.	..	..	..	..	.. 8	..	..	..	..
12.	..	..	..	..	..	..	..	..	..
13.	..	..	..	..	..	..	..	..	..
14.	..	..	..	..	..	..	..	..	..
15.	..	..	..	..	..	..	..	..	..
16.	..	..	..	..	..	..	..	..	..
17.	..	..	..	..	..	..	..	..	..
18.	..	..	..	..	..	..	..	..	..
19.	..	..	..	..	..	..	..	..	..
20.	..	..	..	..	..	..	..	..	..
21.	..	..	..	..	..	..	..	..	..
22.	..	..	..	..	..	..	..	L	..
23.	..	..	..	..	..	..	..	..	..
24.	..	..	..	..	K	K	..	..	..
25.	..	..	..	..	..	..	..	..	..
26.	..	..	..	..	..	..	..	..	..
27.	..	..	..	..	..	..	..	..	..

Emperor.	بهکر Bhakkar.			بهوپال Bhopāl.		
	N	R	E	N	R	E
1. Bābur	..	..	..	..	..	..
2. Humāyūn	..	..	..	..	..	..
3. Akbar	..	P.M.	W	..	..	..
4. Jahāngīr	..	..	..	..	..	..
5. Jahāngīr and Nūr Jahān	..	..	..	..	..	..
6. Dāwar Bakhsh ..	..	..	..	..	..	..
7. Shāh Jahān ..	..	B.M.	..	..	..	..
8. Aurangzeb ʻĀlamgīr ..	..	I.M.	..	..	..	..
9. Murād Bakhsh ..	..	..	..	..	..	..
10. Shāh Shujāʻ ..	..	..	..	..	..	..
11. Shāh ʻĀlam Bahādur ..	..	..	..	..	..	..
12. Aʻzam Shāh ..	..	..	..	..	..	..
13. Kām Bakhsh ..	..	..	..	..	..	..
14. Jahāndār Shāh ..	..	XV.	..	..	..	..
15. ʻAẓīmu-sh-shān ..	..	..	..	..	..	..
16. Farrukhsiyar ..	..	B.M.	..	..	..	..
17. Rafīʻu-d-darjāt ..	..	..	..	..	..	..
18. Rafīʻu-d-daula (Shāh Jahān II).	..	..	..	..	..	..
19. Muḥammad Ibrāhīm ..	..	..	..	..	..	..
20. Muḥammad Shāh ..	..	P.M.	P.M.	..	..	..
21. Aḥmad Shāh Bahādur ..	..	P.M.	..	..	..	..
22. ʻĀlamgīr II ..	..	..	..	..	..	..
23. Shāh Jahān III ..	..	..	..	..	..	..
24. Shāh ʻĀlam II ..	..	..	..	..	K	..
25. Bedār Bakht ..	..	..	..	..	..	..
26. Akbar II	..	..	..	..	..	..
27. Bahādur II ..	..	..	..	..	..	..

	بهیلسه Bhilsa.			بیجاپور Bijāpūr.			بیراته Bairāta.		
	N	R	Æ	N	R	Æ	N	R	Æ
1.	..	..	..	..	..	..	..	..	..
2.	..	..	..	..	..	..	..	..	..
3.	..	..	..	..	..	..	..	I.M.	B.M.
4.	..	..	..	..	..	..	..	XI.	I.M.
5.	..	..	..	..	..	..	..	..	..
6.	..	..	..	..	..	..	..	..	..
7.	XI.	I.M.	..	..	..	..	..	..	I.M.
8.	..	P.M.	..	B.M.	B.M.	R(1)	..	..	R(1)
9.	..	..	..	..	..	..	..	..	..
10.	..	..	..	..	..	..	..	..	..
11.	..	..	..	..	D(1)	Wh.	..		..
12.	..	..	..	..	..	..	..	..	..
13.	..	..	..	..	B.M.	..	..	..	..
14.	..	..	..	..	W	Wh.	..	..	..
15.	..	..	..	..	.	..	..	..	..
16.	..	..	..	B.M.	..	K	..	..	..
17.	..	..	..	..	..	..	..	..	..
18.	..	..	..	..	..	..	..	..	..
19.	..	..	..	..	..	..	..	..	..
20.	..	..	..	..	..	..	..	..	..
21.	..	..	..	..	..	..	..	..	..
22.	..	..	..	..	..	..	..	..	..
23.	..	..	..	..	..	..	..	..	..
24.	..	..	..	..	..	..	..	..	..
25.	..	..	..	..		..	..	..	..
26.	..	..	..	..	..	..	..	..	..
27.	..	..	..	..	..	..	..	..	..

Emperor.	پانی پت Pānīpaṭ.			پتن Pattan.			پتن دیو Paṭṭan Deo.		
	Ⱥ	Æ	Æ	Ⱥ	Æ	Æ	Ⱥ	Æ	Æ
1. Bābur	..	..	..	..	..	..	..		..
2. Humāyūn	..	..	..	..	..	..	..	..	..
3. Akbar	..	..	..	B.M.	XI	T	..	..	..
4. Jahāngīr	..	..	..	..	..	..	..	..	..
5. Jahāngīr and Nūr Jahān	..	..	..	..	..	..	..	..	..
6. Dāwar Bakhsh ..	..	..	..	..	..	..	..	..	..
7. Shāh Jahān ..	.	..	..	..	..	..	B	P.M.	..
8. Aurangzeb ʻĀlamgīr ..	..	..	..	.	..	..	..	..	..
9. Murād Bakhsh ..	..	..	..	..	..	..	..	..	..
10. Shāh Shujāʻ ..	..	..	..	..	.	..	..	..	..
11. Shāh ʻĀlam Bahādur ..	..	..	..	..	..	..	..	..	..
12. Aʻẓam Shāh ..	..	..	..	..	..	..	..	..	..
13. Kām Bakhsh ..	..	..	..	..	..	..	..	..	..
14. Jahāndār Shāh ..	..	..	..	..	..	..	..	..	..
15. ʻAẓīmu-sh-shān ..	..	..	..	..	..	..	..	..	..
16. Farrukhsiyar ..	..	..	..	..	..	..	..	..	..
17. Rafīʻu-d-darjāt ..	..	..	..	..	..	..	..	..	..
18. Rafīʻu-d-daula (Shāh Jahān II).	..	..	..	..	..	..	..	..	..
19. Muḥammad Ibrāhīm ..	..	..	..	..	..	..	..	..	..
20. Muḥammad Shāh ..	..	..	..	..	..	..	..	..	..
21. Aḥmad Shāh Bahādur	..	..	..	..	..	..	..	..	..
22. ʻĀlamgīr II ..	..	..	..	..	..	..	..	..	..
23. Shāh Jahān III ..	..	..	..	..	..	..	..	..	..
24. Shāh ʻĀlam II ..	..	P.M.	..	..	..	..	..	..	..
25. Bedār Bakht ..	..	..	..	..	..	..	..	..	..
26. Akbar II	..	..	..	..	..	..	..	..	..
27. Bahādur II ..	..	..	..	..	..	..	..	..	..

	پتنه PATNA.			پنج نگر PANJNAGAR			پربندر PURBANDAR.		
	N	R	Æ	N	R	Æ	N	R	Æ
1.	..	..	..	..		..	..	..	..
2.	..	..	..	..	..	..	..	..	..
3.	B.M.	B.M.	K	..	..	..	..	..	..
4.	B.M.	B.M.	..	..	P.M.	..	..	..	..
5.	..	B.M.	..	..	..	..	..	..	..
6.	..	..	..	..	..	..	..		..
7.	I.M.	B.M.	R(1)	..	..	..	..	..	..
8.	I.M.	B.M.	..	..	..	..	..	I.M.	..
9.	..	..	..	..	..	..	..	..	..
10.	..	..	..	..	..	..	..	..	..
11.	..	..	..	..	..	..	..	I.M.	..
12.	..	..	..	..	..	..	..	..	..
13.	..	..	..	..	..	..	..	..	..
14.	..	..	..	..	..	..	..	..	..
15.	..	..	..	..	..	..	..	..	..
16.	B.M.	..	..	..	..	..	B.M.	T	..
17.	..	B.M.	..	..	..	..	..	..	..
18.	..	..	..	..	..	..	..	..	..
19.	..	..	..	..	..	..	..	..	..
20.	..	..	..	..	..	..	..	W	..
21.	..	..	..	..	..	..	..	..	..
22.	..	..	..	..	..	..	..	..	..
23.	..	..	..	..	..	..	..	..	..
24.	..	..	..	..	..	..	..	..	..
25.	..	..	..	..	..	..	..	..	..
26.	..	..	..	..	..	..	..		..
27.	..	..	..	..	..	..	..	..	..

Emperor.	پونچ Punch.			پیشاور Peshāwar.		
	N	R	E	N	R	E
1. Bābur	..	..	..	..	..	..
2. Humāyūn	..	..	..	..	..	..
3. Akbar	..	..	..	..	..	..
4. Jahāngīr	..	..	..	..	..	..
5. Jahāngīr and Nūr Jahān	..	..	..	..	..	..
6. Dāwar Bakhsh ..	..	..	..	..	..	..
7. Shāh Jahān ..	..	..	..	..	L	..
8. Aurangzeb ʻĀlamgīr ..	..	T	..	..	XV.	..
9. Murād Bakhsh ..	..	..	..	..	..	..
10. Shāh Shujāʻ ..	..	..	..	..	..	..
11. Shāhʻālam Bahādur .	..	..	..	B.M.	P.M.	..
12. Aʻzam Shāh ..	..	..	..	..	..	..
13. Kām Bakhsh ..	..	..	..	..	..	..
14. Jahāndār Shāh ..	..	..	..	..	P.M.	..
15. ʻAẓīmu-sh-shān ..	..	..	..	..	..	..
16. Farrukhsiyar ..	..	..	..	XI.	P.M.	..
17. Rafīʻu-d-darjāt ..	..	..	..	P.M.	..	..
18. Rafīʻu-d-daula (Shāh Jahān II).	..	..	..	..	..	..
19. Muḥammad Ibrāhīm ..	..	..	..	..	..	..
20. Muḥammad Shāh ..	..	..	..	P.M.	P.M.	..
21. Aḥmad Shāh Bahādur	..	..	.	..	..	P.M.
22. ʻĀlamgīr II ..	..	..	..	..	..	..
23. Shāh Jahān III ..	..	..	..	..	..	..
24. Shāh ʻĀlam II ..	..	..	..	..	..	..
25. Bedār Bakht ..	..	..	..	..	..	..
26. Akbar II	..	..	..	..	..	..
27. Bahādur II ..	..	..	..	..	..	..

	تته Tatta.			تور گل Toragal.			جالنه پور Jālnapūr.		
	N	*R*	*E*	*N*	*R*	*E*	*N*	*R*	*E*
1.	..	K	..	..	..	..	..	..	..
2.	..	..	..	..	..	..	..	..	..
3.	..	B.M.	..	..	..	..	..	..	..
4.	..	B.M.	..	..	..	..	..	P.M.	
5.	..	..	..	..	..	..	..	..	..
6.	..	..	..	..	..	..	..	..	..
7.	I.M.	B.M.	..	..	..	..	..	..	..
8.	B.M.	I.M.	..	W	T	..	..	..	..
9.	..	..	..	..	..	..	..	..	..
10.	..	..	..	..	..	..	..	..	..
11.	XI.	P.M.[1]	..	P.M.	XV.	..	..	..	..
12.	..	..	..	..	..	..	..	..	..
13.	..	..	..	..	II.	..	..	..	..
14.	..	P.M.	..	..	..	..	..	..	..
15.	..	..	..	..	..	..	..	..	..
16.	..	P.M.	..	..	T	..	..	..	..
17.	..	..	..	..	..	..	..	..	..
18.	..	P.M.	..	..	..	..	..	..	..
19.	..	..	..	..	..	..	..	..	..
20.	P.M.	P.M.	..	..	..	..	..	..	..
21.	..	..	..	..	L.M.	..	..	..	..
22.	..	..	..	..	..	..	..	..	..
23.	..	..	..	..	..	..	..	..	..
24.	..	..	..	..	..	..	..	..	..
25.	..	..	..	..	..	..	..	..	..
26.	..	..	..	..	..	..	..	..	..
27.	..	..	..	..	..	..	..	..	..

[1] Also of Shāh ʿĀlam Bahādur as Muʿaẓẓam Shāh: Æ, I.M.

Emperor.	جلال پور Jalālpūr.			جلال نگر Jalālnagar.		
	N	R	E	N	R	E
1. Bābur	..	..	..	..	..	..
2. Humāyūn	..	..	..	..	..	..
3. Akbar	..	..	V(1)	..	..	W
4. Jahāngīr	..	..	..	..	..	..
5. Jahāngīr and Nūr Jahān	..	..	..	..	..	..
6. Dāwar Bakhsh ..	..	..	..	..	..	..
7. Shāh Jahān ..	..	..	..	..	..	..
8. Aurangzeb ʻĀlamgīr ..	..	..	..	..	..	..
9. Murād Bakhsh ..	..	..	..	..	..	..
10. Shāh Shujāʻ ..	..	..	..	..	..	..
11. Shāhʻālam Bahādur ..	..	..	..	..	..	..
12. Aʻẓam Shāh ..	..	..	..	..	..	..
13. Kām Bakhsh ..	..	..	..	..	..	..
14. Jahāndār Shāh ..	..	..	..	..	..	..
15. ʻAẓīmu-sh-shān ..	..	..	..	..	..	..
16. Farrukhsiyar ..	..	..	..	..	..	..
17. Rafīʻu-d-darjāt ..	..	..	..	..	..	..
18. Rafīʻu-d-daula (Shāh Jahān II)	..	..	..	..	..	..
19. Muḥammad Ibrāhīm ..	..	..	..	..	..	..
20. Muḥammad Shāh ..	..	..	..	..	..	..
21. Aḥmad Shāh Bahādur ..	..	..	..	..	..	..
22. ʻĀlamgīr II ..	..	..	..	..	..	..
23. Shāh Jahān III ..	..	..	..	..	..	..
24. Shāh ʻĀlam II ..	..	..	..	..	..	..
25. Bedār Bakht ..	..	..	..	..	..	..
26. Akbar II	..	..	..	..	..	..
27. Bahādur II ..	..	..	..	..	..	..

	جلير JALAIR.			جمون JAMMŪN.			جنجي JINJI.		
	N	*R*	*E*	*N*	*R*	*E*	*N*	*R*	*E*
1.	..	..	..	..	..	..	..	..	..
2.	..	..	..	..	..	..	..	..	..
3.	..	..	..	..	..	..	..	..	..
4.	..	I.M.	..	..	..	..	..	..	..
5.	..	..	..	..	..	..	..	..	..
6.	..	..	..	..	..	..	..	..	..
7.	..	..	..	..	..	..	..	..	..
8.	..	..	..	..	..	..	..	XIV.	..
9.	..	..	..	..	..	..	..	..	..
10.	..	..	..	..	..	..	..	..	..
11.	..	..	..	..	..	..	..	..	..
12.	..	..	..	..	..	..	..	..	..
13.	..	..	..	..	..	..	..	..	..
14.	..	..	..	..	..	..	..	..	..
15.	..	..	..	..	..	..	..	..	..
16.	..	..	..	..	..	..	..	..	..
17.	..	..	..	..	..	..	..	..	..
18.	..	..	..	..	..	..	..	..	..
19.	..	..	..	..	..	..	..	..	..
20.	..	..	..	..	..	..	..	..	..
21.	..	..	..	..	..	..	..	..	..
22.	..	..	..	..	..	..	..	..	..
23.	..	..	..	..	..	..	..	..	..
24.	..	..	..	..	I.M.	..	..	..	..
25.	..	..	..	..	..	..	..	..	..
26.	..	..	..	..	..	..	..	..	..
27.	..	..	..	..	..	..	..	..	..

Emperor.	جودهپور Jodhpūr.			جونپور Jaunpūr.		
	Ⱥ	Ɽ	Æ	Ⱥ	Ɽ	Æ
1. Bābur	..	..	..	..	P.M.	..
2. Humāyūn	..	..	..	..	..	I.M.
3. Akbar	..	..	..	B.M.	B.M.	B.M.
4. Jahāngīr	..	..	..	..	..	..
5. Jahāngīr and Nūr Jahān	..	..	..	..	..	..
6. Dāwar Bakhsh ..	..	..	..	..	..	..
7. Shāh Jahān ..	..	..	..	..	..	..
8. Aurangzeb ʻĀlamgīr ..	..	..	..	B.M	K	..
9. Murād Bakhsh ..	..	..	..	..	..	..
10. Shāh Shujāʻ ..	..	..	..	..	..	..
11. Shāhʻālam Bahādur ..	..	..	..	..	..	..
12. Aʻẓam Shāh ..	..	..	..	..	..	..
13. Kām Bakhsh ..	..	..	..	..	..	..
14. Jahāndār Shāh ..	..	..	..	..	..	..
15. ʻAẓīmu-sh-shān ..	..	..	..	..	..	..
16. Farrukhsiyar ..	..	..	..	..	..	..
17. Rafīʻu-d darjāt ..	..	..	..	..	..	..
18. Rafīʻu-d daula (Shāh Jahān II).	..	..	..	..	..	..
19. Muḥammad Ibrāhīm ..	..	..	..	..	..	..
20. Muḥammad Shāh ..	..	..	..	..	..	..
21. Aḥmad Shāh Bahādur	..	P.M.	..	..	..	..
22. ʻĀlamgīr II ..	..	K	..	..	..	..
23. Shāh Jahān III ..	..	..	..	..	..	..
24. Shāh ʻĀlam II ..	..	P.M.	..	..	..	..
25. Bedār Bakht ..	..	..	..	..	..	..
26. Akbar II	..	..	..	..	..	..
27. Bahādur II ..	..	..	..	..	..	..

	جونه گڑه Jūnagaṛh.			جهانسي Jhānsī.			جهانگير نگر Jahāngīrnagar.		
	Ā	Ā	Æ	Ā	Ā	Æ	Ā	Ā	Æ
1.	..	..	..	..	..	..	..	..	..
2.	..	..	..	..	..	..	..	..	..
3.	..	..	..	..	..	..	..	..	..
4.	..	..	..	..	..	..	B.M.	B.M.	..
5.	..	..	..	..	..	..	..	..	..
6.	..	..	..	..	..	..	..	..	..
7.	..	I.M.	..	..	..	..	St.	B.M	..
8.	..	B.M.	..	..	..	..	P.M.	B.M.	..
9.	..	..	..	..	..	..	..	..	..
10.	..	..	..	..	..	..	..	..	..
11.	..	P.M.	..	..	..	..	..	I.M.	W
12.	..	..	..	..	..	..	..	..	..
13.	..	..	..	..	..	..	..	..	..
14.	..	..	..	..	..	..	..	..	..
15.	..	..	..	..	..	..	..	*B.M.*	..
16.	..	P.M.	..	..	..	..	..	I.M.	..
17.	..	..	..	..	..	..	..	..	..
18.	..	T	..	..	..	..	..	..	..
19.	..	..	..	..	..	..	..	..	..
20.	..	T	..	..	..	..	..	I.M.	..
21.	..	..	..	..	..	..	..	I.M.	..
22.	..	..	..	..	..	..	..	I.M.	..
23.	..	..	..	..	..	..	..	..	..
24.	..	..	..	..	..	R(1)	..	B.M.	..
25.	..	..	..	..	..	..	..	..	..
26.	..	..	..	..	..	..	..	..	..
27.	..	..	..	..	..	..	..	..	..

Emperor.	جی پور Jaipūr.			چنار Chunār.		
	N	R	E	N	R	E
1. Bābur	..	..	..	..	..	..
2. Humāyūn	..	..	..	..	..	..
3. Akbar	..	..	..	..	L.M.	P.M.
4. Jahāngīr	..	..	..	..	..	..
5. Jahāngīr and Nūr Jahān	..	..	..	..	..	..
6. Dāwar Bakhsh ..	..	..	..	..	..	..
7. Shāh Jahān ..	..	..	..	..	..	..
8. Aurangzeb ʻĀlamgīr ..	..	..	..	..	..	..
9. Murād Bakhsh ..	..	..	..	..	..	..
10. Shāh Shujāʻ ..	..	..	..	..	..	..
11. Shāhʻālam Bahādur ..	..	..	..	..	..	..
12. Aʻẓam Shāh ..	..	..	..	..	..	..
13. Kām Bakhsh ..	..	..	..	..	..	..
14. Jahāndār Shāh ..	..	..	..	..	..	..
15. ʻAẓīmu-sh-shān ..	..	..	..	..	..	..
16. Farrukhsiyar ..	..	..	..	..	..	..
17. Rafiʻu-d-darjāt ..	..	..	..	..	..	..
18. Rafiʻu-d-daula (Shāh Jahān II).	..	..	..	..	..	..
19. Muḥammad Ibrāhīm ..	..	..	..	..	..	..
20. Muḥammad Shāh ..	XI.	B.M.	..	..	..	..
21. Aḥmad Shāh Bahādur	XI.	I.M.	..	..	..	..
22. ʻĀlamgīr II ..	I.M.	I.M.	..	..	..	..
23. Shāh Jahān III ..	..	..	..	..	..	..
24. Shāh ʻĀlam II ..	I.M.	I.M.	K	..	..	..
25. Bedār Bakht ..	..	..	..	..	..	..
26. Akbar II	..	..	..	..	..	..
27. Bahādur II ..	..	..	..	..	..	..

	چنپانیر CHAMPĀNIR.			چھتر پور CHHATARPŪR.			چھچھولی CHHACHHRAULI.		
	N	R	Æ	N	R	Æ	N	R	Æ
1.	..	..	..	..	..	..	..	..	..
2.	..	P.M.	P.M.	..	..	..	..	..	..
3.	..	..	..	..	..	..	..	..	..
4.	..	..	..	..	..	..	..	..	..
5.	..	..	..	..	..	..	..	..	..
6.	..	..	..	..	..	..	..	..	..
7.	..	..	..	..	..	..	..	..	..
8.	..	..	..	..	..	..	..	..	..
9.	..	..	..	..	..	..	..	..	..
10.	..	..	..	..	..	..	..	..	..
11.	..	..	..	..	..	..	..	..	..
12.	..	..	..	..	..	..	..	..	..
13.	..	..	..	..	..	..	..	..	..
14.	..	..	..	..	..	..	..	..	..
15.	..	..	..	..	..	..	..	..	..
16.	..	..	..	..	..	..	..	..	..
17.	..	..	..	..	..	..	..	..	..
18.	..	..	..	..	..	..	..	..	..
19.	..	..	..	..	..	..	..	..	..
20.	..	..	..	..	..	..	..	..	..
21.	..	..	..	..	..	..	..	..	..
22.	..	..	..	..	..	..	..	..	..
23.	..	..	..	..	..	..	..	..	..
24.	..	..	..	..	W	..	..	..	I.M.
25.	..	..	..	..	..	..	..	..	..
26.	..	..	..	..	..	..	..	..	..
27.	..	..	..	..	..	..	..	..	..

Emperor.	چیتور Chitor.			چینا پٹن Chinapatan.		
	Ⱥ	Ɍ	Æ	Ⱥ	Ɍ	Æ
1. Bābur	..	..	..	..	..	..
2. Humāyūn	..	..	..	..	..	..
3. Akbar	..	..	I.M.	..	..	..
4. Jahāngīr	..	..	..	..	..	..
5. Jahāngīr and Nūr Jahān	..	..	..	..	..	..
6. Dāwar Bakhsh ..	..	..	..	..	..	..
7. Shāh Jahān ..	..	..	..	..	..	..
8. Aurangzeb ʻĀlamgīr ..	..	..	..	B.M.	B.M.	..
9. Murād Bakhsh ..	..	..	..	..	..	..
10. Shāh Shujāʻ ..	..	..	..	..	..	..
11. Shāh ʻĀlam Bahādur ..	..	..	..	..	I.M.	..
12. Aʻẓam Shāh ..	..	..	..	..	..	..
13. Kām Bakhsh ..	..	..	..	..	..	..
14. Jahāndār Shāh ..	..	..	..	..	..	..
15. ʻAẓīmu-sh-shān ..	..	..	..	..	..	..
16. Farrukhsiyar ..	..	..	..	..	B.M.	..
17. Rafīʻu-d-darjāt ..	..	..	..	..	..	..
18. Rafīʻu-d-daula (Shāh Jahān II).	..	..	..	..	..	..
19. Muḥammad Ibrāhīm ..	..	..	..	..	..	..
20. Muḥammad Shāh ..	..	..	..	..	XV.	..
21. Aḥmad Shāh Bahādur	..	..	..	..	..	..
22. ʻĀlamgīr II ..	..	..	..	..	..	..
23. Shāh Jahān III ..	..	..	..	..	..	..
24. Shāh ʻĀlam II ..	..	..	..	..	..	..
25. Bedār Bakht ..	..	..	..	..	..	..
26. Akbar II	..	..	..	..	..	..
27. Bahādur II ..	..	..	..	..	..	..

	حاجی پور Ḥājīpūr.			حافظ آباد Ḥāfiẓābād.			حسن آباد Ḥasanābād.		
	N	*R*	*E*	*N*	*R*	*E*	*N*	*R*	*E*
1.	..	..	..	..	..	..	..	..	..
2.	..	..	..	..	..	..	..	..	..
3.	V.[1]	..	..	..	..	..	..	..	..
4.	..	..	..	..	..	..	..	..	..
5.	..	..	..	..	..	..	..	..	..
6.	..	..	..	..	..	..	..	..	..
7.	..	..	..	..	..	..	..	..	..
8.	..	..	..	..	..	..	..	..	..
9.	..	..	..	..	..	..	..	..	..
10.	..	..	..	..	..	..	..	..	..
11.	..	..	..	..	..	..	..	..	..
12.	..	..	..	..	..	..	..	..	..
13.	..	..	..	..	..	..	..	..	..
14.	..	..	..	..	..	..	..	..	..
15.	..	..	..	..	..	..	..	..	..
16.	..	..	..	..	..	..	..	..	..
17.	..	..	..	..	..	..	..	..	..
18.	..	..	..	..	..	..	..	..	..
19.	..	..	..	..	..	..	..	..	..
20.	..	..	..	..	..	V(1)	..	..	..
21.	..	..	..	..	..	..	..	..	..
22.	..	..	..	..	..	R(1)	..	..	..
23.	..	..	..	..	..	..	..	..	..
24.	..	..	..	..	..	..	..	W	P.M.
25.	..	..	..	..	..	..	..	..	..
26.		..	..	..	..	..	..	..	..
27.		..		..	..	..	..	..	..

[1] Roman numeral.

Emperor.	حصار					
	حصار Ḥiṣar.			حصار فیروزہ Ḥiṣar Firoza.		
	N	R	E	N	R	E
1. Bābur	..	..	..	..	..	..
2. Humāyūn	..	..	..	..	..	..
3. Akbar . ..	..	W	P.M.	..	XI.	P.M.
4. Jahāngīr	..	..	..	..	..	..
5. Jahāngīr and Nūr Jahān	..	..	..	..	..	..
6. Dāwar Bakhsh ..	..	..	..	..	..	..
7. Shāh Jahān ..	..	..	..	..	..	..
8. Aurangzeb ʻĀlamgīr ..	..	..	..	..	..	..
9. Murād Bakhsh ..	..	..	..	..	..	..
10. Shāh Shujāʻ ..	..	..	..	..	..	..
11. Shāh ʻĀlam Bahādur ..	..	..	..	..	..	..
12. Aʻzam Shāh ..	..	..	..	..	..	..
13. Kām Bakhsh ..	..	..	..	..	..	..
14. Jahāndār Shāh ..	..	..	..	..	..	..
15. ʻAẓīmu-sh-shān ..	..	..	..	..	..	..
16. Farrukhsiyar ..	..	..	..	..	..	..
17. Rafīʻu-d-darjāt ..	..	..	..	..	..	..
18. Rafīʻu-d-daula (Shāh Jahān II).	..	..	..	..	..	..
19. Muḥammad Ibrāhīm ..	..	..	..	..	..	..
20. Muḥammad Shāh ..	..	..	..	..	..	..
21. Aḥmad Shāh Pahādur..	..	..	..	..	..	..
22. ʻĀlamgīr II ..	..	..	..	..	..	..
23. Shāh Jahān III ..	..	..	..	..	..	..
24. Shāh ʻĀlam II ..	..	..	..	..	..	..
25. Bedār Bakht ..	..	..	..	..	..	..
26. Akbar II	..	..	..	..	..	..
27. Bahādur II ..	..	..	..	..	..	..

	حیدرآباد Ḥaidarābād.			خجستہ بنیاد Khujista Bunyād.			خیر آباد Khairābād.		
	N	*R*	*E*	*N*	*R*	*E*	*N*	*R*	*E*
1.	..	..	..	..	..	..	..	..	..
2.	..	..	..	..	..	..	..	..	..
3.	..	..	..	..	..	..	..	..	Wh.
4.	..	..	..	..	..	..	..	..	..
5.	..	..	..	..	..	..	..	..	..
6.	..	..	..	..	..	..	..	..	..
7.	..	..	..	..	..	..	..	..	..
8.	P.M.	I.M.	R(1)	B.M.	B.M.	..	..	..	..
9.	..	..	..	..	..	..	..	..	..
10.	..	..	..	..	..	..	..	..	..
11.	P.M.	I.M.	K	B.M.	I.M.	..	..	..	..
12.	..	..	..	B.M.	XV.	..	..	..	..
13.	B.M.	K	..	..	..	..	..	..	..
14.	..	W	..	B.M.	I.M.	..	..	..	..
15.	..	..	..	..	..	..	..	..	..
16.	XI.	P.M.	..	B	I.M.	..	..	..	..
17.	..	..	..	P.M.	P.M.	..	..	..	..
18.	*B.M.**	..	..	P.M.	F	..	..	..	..
19.	..	..	..	..	..	..	..	..	..
20.	B.M.	XI.	..	B.M.	P.M.	..	..	..	..
21.	..	..	..		F	..	..	..	..
22.	..	..	..	..	T	..	..	..	..
23.	..	..	..	..	..	..	..	..	..
24.	..	..	..	..	..	..	..	..	..
25.	..	..	..	..	..	..	..	..	..
26.	..	..	..	..	..	..	..	..	..
27.	..	.	..	..	..	..	..	..	

* Also Del. (1).

Emperor.	خیر پور Khairpūr.			خیرنگر Khairnagar.		
	N	R	E	N	R	E
1. Bābur	..	..	..	..	..	..
2. Humāyūn	..	..	..	..	..	..
3. Akbar	..	..	I.M.	..	..	..
4. Jahāngīr	..	..	..	..	..	..
5. Jahāngīr and Nūr Jahān	..	..	..	..	..	..
6. Dāwar Bakhsh ..	..	..	..	..	..	..
7. Shāh Jahān ..	..	..	..	..	..	..
8. Aurangzeb ʻĀlamgīr ..	..	..	..	..	K	..
9. Murād Bakhsh ..	..	..	..	..	..	..
10. Shāh Shujāʻ ..	..	..	..	..	..	..
11. Shāhʻ Ālam Bahādur ..	..	..	..	..	..	..
12. Aʻẓam Shāh ..	..	..	..	..	..	..
13. Kām Bakhsh ..	..	..	..	..	..	..
14. Jahāndār Shāh ..	..	..	..	..	..	..
15. ʻAẓīmu-sh-shān ..	..	..	..	..	..	..
16. Farrukhsiyar ..	..	..	..	..	..	..
17. Rafīʻu-d-darjāt ..	..	..	..	..	..	..
18. Rafīʻu-d-daula (Shāh Jahān II).	..	..	..	..	..	..
19. Muḥammad Ibrāhīm ..	..	..	..	..	..	..
20. Muḥammad Shāh ..	..	..	..	..	..	..
21. Aḥmad Shāh Bahādur	..	..	..	..	..	..
22. ʻĀlamgīr II ..	..	..	..	..	..	..
23. Shāh Jahān III ..	..	..	..	..	..	..
24. Shāh ʻĀlam II ..	..	..	..	..	..	..
25. Bedār Bakht ..	..	..	..	..	..	..
26. Akbar II	..	..	..	..	..	..
27. Bahādur II ..	..	..	..	..	..	..

	دادر DĀDAR.			دامله DĀMLA.			دلشاد اباد DILSHĀDĀBĀD.		
	N	*R*	*Æ*	*N*	*R*	*Æ*	*N*	*R*	*Æ*
1.	..	..	..	..	..	..	..	..	..
2.	..	..	..	..	..	..	..	..	..
3.	..	..	..	..	..	..	..	..	..
4.	..	..	..	..	..	..	..	..	..
5.	..	..	..	..	..	..	..	..	..
6.	..	..	..	..	..	..	..	..	..
7.	..	..	..	..	..	..	..	..	..
8.	..	..	..	..	..	..	..	..	..
9.	..		..	..	..	..	..	..	..
10.	..	..	..	..	..	..	..	..	..
11.	..	..	..	..	..	..	..	..	..
12.	..	..	..	..	..	..	..	..	..
13.	..	..	..	..	..	..	..	..	..
14.	..	..	..	..	..	..	..	..	..
15.	..	..	..	..	..	..	..	..	..
16.	..	..	..	..	..	..	..	..	..
17.	..	..	..	..	..	..	..	..	..
18.	..	..	.	..	..	..	..	..	..
19.	..	..	..	..		..	..	..	..
20.	..	..	..	..	..	..	..	..	..
21.	..	..	..	..	..	..	..	..	..
22.	..	..	..	..	..	..	..	T	..
23.	..	..	..	..	..	..	..	..	..
24.	..	..	B.M.	..	..	R(1)	..	B.M.	*B.M.*
25.	..	..	..	..	..	..	..	..	..
26.	..	..	..	..	..	..	..	..	..
27.	..	..	..	..	..	..	..	..	..

Emperor.	دوگاو Dogāon,			دولت آباد Daulatābād.		
	N	R	E	N	R	E
1. Bābur	..	..	..	..	..	..
2. Humāyūn	..	..	..	..	..	..
3. Akbar	..	..	B.M.	..	..	..
4. Jahāngīr	..	..	..	..	..	..
5. Jahāngīr and Nūr Jahān	..	..	..	..	..	..
6. Dāwar Bakhsh ..	..	..	..	..	..	..
7. Shāh Jahān ..	..	..	V(2)	B.M.	B.M.	..
8. Aurangzeb ʻĀlamgīr ..	..	..	..	..	..	..
9. Murād Bakhsh ..	..	..	..	..	..	..
10. Shāh Shujāʻ ..	..	..	..	..	..	..
11. Shāh ʻĀlam Bahādur ..	..	..	..	..	..	..
12. Aʻẓam Shāh ..	..	..	..	..	..	..
13. Kām Bakhsh ..	..	..	..	..	..	..
14. Jahāndār Shāh ..	..	..	..	..	..	..
15. ʻAẓīmu-sh-shān ..	..	..	..	..	..	..
16. Farrukhsiyar ..	..	..	..	..	..	..
17 Rafīʻu-d-darjāt ..	..	..	..	..	..	..
18. Rafīʻu-d-daula (Shāh Jahān II).	..	..	..	..	..	..
19. Muḥammad Ibrāhīm ..	..	..	..	..	..	..
20. Muḥammad Shāh ..	..	..	..	..	..	..
21. Aḥmad Shāh Bahādur	..	..	..	..	..	..
22. ʻĀlamgīr II ..	..	..	..	..	..	..
23. Shāh Jahān III ..	..	..	..	..	..	..
24. Shāh ʻĀlam II ..	..	..	..	..	W	P.M.
25. Bedār Bakht ..	..	..	..	..	..	..
26. Akbar II	..	..	..	..	..	..
27. Bahādur II ..	..	..	..	..	..	..

	دهلی Dehlí.			دیره Dera.			دیرجات Derajāt.		
	Ⱥ	Ⱥ	Æ	Ⱥ	Ⱥ	Æ	Ⱥ	Ⱥ	Æ
1.	..	..	..	..	..	..	..	..	..
2.	..	I.M.	I.M.	..	..	..	..	..	..
3.	B.M.	B.M.	B.M.	..	..	..	..	..	..
4.	P.M.	I.M.	P.M.	..	..	..	..	..	..
5.	..	..	..	..	..	..	..	..	..
6.	..	..	..	..	..	..	..	..	..
7.	..	B.M.	I.M.	..	..	..	..	..	..
8.	..	..	..	..	..	..	..	..	..
9.	..	..	..	..	..	..	..	..	..
10.	..	..	..	..	..	..	..	..	..
11.	..	..	..	..	..	..	..	..	..
12.	..	..	..	..	..	..	..	..	..
13.	..	..	..	..	..	..	..	..	..
14.	..	..	..	..	..	..	..	..	..
15.	..	..	..	..	..	..	..	..	..
16.	..	..	..	..	..	..	..	..	..
17.	..	..	..	..	..	..	..	..	..
18.	..	..	..	..	..	..	..	..	..
19.	..	..	..	..	..	..	..	..	..
20.	..	..	..	..	..	..	..	P.M.	..
21.	..	..	..	XI	P.M.	..	P.M.	XV	..
22.	..	..	..	..	P.M.	..	..	..	..
23.	..	..	..	..	..	..	..	..	..
24.	..	..	..	..	..	..		..	..
25.	..	..	..	..	..	..	..	..	..
26.	..	..	..	..	..	..	..	..	..
27.	..	..	..	..	..	..	..	..	..

Emperor.	دیو گڑہ Deogarh.			دیول بندر Dewal Bandar.		
	N	R	E	N	R	E
1. Bābur	..	..	..	..	..	..
2. Humāyūn	..	..	..	..	..	..
3. Akbar	..	..	..	..	P.M.	..
4. Jahāngīr	..	..	..	..	..	..
5. Jahāngīr and Nūr Jahān	..	..	..	..	..	..
6. Dāwar Bakhsh ..	..	..	..	..	..	..
7. Shah Jahān ..	..	..	..	..	..	..
8. Aurangzeb ʻĀlamgīr ..	..	..	..	..	..	..
9. Murād Bakhsh ..	..	..	..	..	..	..
10. Shāh Shujāʻ ..	..	..	..	..	..	..
11. Shāh ʻĀlam Bahādur ..	..	..	..	..	..	..
12. Aʻzam Shāh ..	..	..	..	..	..	.
13. Kām Bakhsh ..	..	..	..	..	..	..
14. Jahāndār Shāh ..	..	..	..	..	..	..
15. ʻAẓimu-sh-shān ..	..	..	..	..	..	..
16. Farrukhsiyar ..	..	..	..	..	..	..
17. Rafīʻu-d-darjāt ..	..	..	..	..	..	..
18. Rafīʻu d-daula (Shāh Jahān II).	..	..	..	..	..	..
19. Muḥammad Ibrāhīm ..	..	..	..	..	..	..
20. Muḥammad Shāh ..	..	..	..	..	..	..
21. Aḥmad Shāh Bahādur..	..	..	..	..	..	..
22. ʻĀlamgīr II ..	..	..	..	..	..	..
23. Shāh Jahān III ..	..	..	..	..	..	..
24. Shāh ʻĀlam II ..	..	P.M.	..	..	..	..
25 Bedār Bakht ..	..	..	..	..	..	..
26. Akbar II	..	..	..	..	..	..
27. Bahādur II ..	..	..	..	..	..	..

رنتهور Ranthor (Ranthambhor.)			روشنگر ساگر Ravishnagar Sāgar.			روهتاس Rohtās.		
	N	Æ	N	Æ	Æ	N	Æ	Æ
1.	..	..	..	..	..	..	..	..
2.	..	..	..	..	..	..	..	..
3.	..	..	..	..	..	..	..	..
4.	..	..	..	..	..	..	F	..
5.	..	..	..	..	..	..	..	..
6.	..	..	..	..	..	..	..	..
7.	..	..	..	..	..	..	..	..
8.	..	W	..	..	..	..	..	..
9.	..	..	..	..	..	..	..	..
10.	..	..	..	..	..	..	..	..
11.	..	..	..	..	..	..	..	..
12.	..	..	..	..	..	..	..	..
13.	..	..	..	..	..	..	..	..
14.	..	..	..	..	..	..	..	..
15.	..	..	..	..	..	..	..	..
16.	..	..	..	..	..	..	..	..
17.	..	..	..	..	..	..	..	..
18.	..	..	..	..	..	..	..	..
19.	..	..	..	..	..	..	..	..
20.	..	..	..	..	..	..	..	..
21.	..	..	..	..	..	..	..	..
22.	..	..	..	..	..	..	..	..
23.	..	..	..	..	..	..	..	..
24.	..	..	..	P.M.	..	..	..	..
25.	..	..	..	..	..	..	..	..
26.	..	..	..	..	..	..	..	..
27.	..	..	..	..	..	..	..	..

Emperor.	زين الجلاد Zainu-l-bilād.			سانبهر Sāmbhar.		
	N	R	E	N	R	E
1. Bābur	..	..	..	..	..	..
2. Humāyūn	..	..	..	..	..	..
3. Akbar	..	..	..	..	..	..
4. Jahāngīr	..	..	..	..	..	..
5. Jahāngīr and Nūr Jahān	..	..	..	..	..	..
6. Dāwar Bakhsh ..	..	..	..	..	..	..
7. Shāh Jahān ..	..	..	..	..	..	..
8. Aurangzeb ʻĀlamgīr ..	..	..	..	..	K	..
9. Murād Bakhsh ..	..	..	..	..	..	..
10. Shāh Shujāʻ ..	..	..	..	..	..	..
11. Shāh ʻĀlam Bahādur ..	..	..	..	..	..	..
12. Aʻẓam Shāh ..	..	..	..	..	..	..
13. Kām Bakhsh ..	..	..	..	..	..	..
14. Jahāndār Shāh ..	..	..	..	..	..	..
15. ʻAẓīmu-sh-shān ..	..	..	..	..	..	..
16. Farrukhsiyar ..	..	..	..	..	..	..
17. Rafīʻu-d-darjāt ..	..	..	..	..	..	..
18. Rafīʻu-d-daula (Shāh Jahān II).	..	..	..	..	..	..
19. Muḥammad Ibrāhīm ..	..	..	..	..	..	..
20. Muḥammad Shāh ..	..	P.M.	..	..	..	.
21. Aḥmad Shāh Bahādur	..	..	..	..	..	..
22. ʻAlamgīr II ..	..	..	..	..	..	..
23. Shāh Jahān III ..	..	..	..	..	..	..
24. Shāh ʻĀlam II ..	..	..	..	..	..	..
25. Bedār Bakht ..	..	..	..	..	..	..
26. Akbar II	..	..	..	..	..	..
27. Bahādur II ..	..	..	..	..	..	..

	سطارا Satārā.			سرونج Sironj.			سري نگر Srīnagar.		
	N	*R*	*Æ*	*N*	*R*	*Æ*	*N*	*R*	*Æ*
1.	..	..	..	..	..	..	..	..	..
2.	..	..	..	..	..	..	..	..	..
3.	..	..	..	..	..	V[1]	..	I.M.	I.M.
4.	..	..	..	..	..	..	..	..	..
5.	..	..	..	..	..	..	..		..
6.	..	..	..	..	..	..	..	..	..
7.	..	..	..	..	..	..	..	..	..
8.	..	T	..	..	..	..	..	.	..
9.	.	..	..	..	..	..	..	..	..
10.	..	..	..	..	..	..	..	..	..
11.	..	..	..	..	..	..	..	..	..
12.	..	..	..	..	..	..	..	..	..
13.	..	..	..	..	..	..	..	..	..
14.	..	..	..	..	..	..	..	..	..
15.	..	..	..	..	..	..	..	..	..
16.	..	..	..	..	P.M.	..	..	..	..
17.	..	..	..	..	..	..	..	..	..
18.	..	..	..	..	..	..	..	..	..
19.	..	..	..	..	..	..	..	..	..
20.	..	XIII.	..	..	XIV.	..	..	..	..
21.	..	..	..	..	..	..	..	..	..
22.	..	..	..	..	W	..	..	..	..
23.	..	..	..	..	..	..	..	..	..
24	..	..	..	..	P.M.	..	..	B.M.[2]	..
25.	..	..	..	..	..	..	..	..	..
26.	..	..		..	..	..	..	..	..
27.	..	..	..	..	..	..	..	..	..

[1] Roman numeral.
[2] Srīnagar in Garhwāl.

Emperor.	سعد نگر Sa'dnagar.			سلیم اباد Salīmābād.		
	N	R	E	N	R	E
1. Bābur	..	..	..	..	..	.
2. Humāyūn	..	..	..	..	..	..
3. Akbar	..	..	..	..	..	XIII.
4. Jahāngīr	..	..	..	..	..	..
5. Jahāngīr and Nūr Jahān	..	..	..	..	..	..
6. Dāwar Bakhsh ..	..	..	..	..	..	..
7. Shāh Jahān ..	..	..	..	..	..	..
8. Aurangzeb 'Ālamgīr ..	..	..	..	..	..	..
9. Murād Bakhsh ..	..	..	..	..	..	..
10. Shāh Shujā' ..	..	..	..	..	..	
11. Shāh 'Ālam Bahādur ..	..	..	..	.	..	
12. A'ẓam Shāh ..	..	..	..	..	..	
13. Kām Bakhsh ..	..	..	..	..	..	
14. Jahāndār Shāh ..	..	.	..	..	..	
15. 'Aẓīmu-sh-shān ..	..	..	..	..	..	
16. Farrukhsiyar ..	..	P.M.	..	..		
17. Rafī'u-d-darjāt ..	..	..	..	..		
18. Rafī'u-d-daula (Shāh Jahān II).	..	..	..	..		
19. Muḥammad Ibrāhīm ..	..	..	..	..		
20. Muḥammad Shāh ..	..	..	..	..		
21. Aḥmad Shāh Bahādur	..	..	..	..		
22. 'Ālamgīr II ..	..	..	..	..		
23. Shāh Jahān III ..	..	..	..	..		
24. Shāh 'Ālam II ..	..	..	..	..	..	
25. Bedār Bakht ..	..	..	..	..	..	..
26. Akbar II	..	..	..	..	..	..
27. Bahādur II ..	..	..	..	..	..	..

	سنبهل Sambhal.			سند Sind			سورت Sūrat.		
	N	*R*	*Æ*	*N*	*R*	*Æ*	*N*	*R*	*Æ*
1.	..	..	..	..	..	..	..	..	..
2.	..	..	..	..	..	..	..	..	..
3.	..	..	XV.	..	..	..	..	P.M.	..
4.	..	..	..	..	..	..	..	P.M.	P.M.
5.	..	..	..	..	..	..	B.M.	B.M.	..
6.	..	..	..	..	..	..	..	..	..
7.	..	..	..	..	..	..	B.M.	B.M.	R(1)
8.	..	..	..	..	..	..	B.M.	B.M.	P.M.
9	..	..	..	..	..	..	..	..	..
10.	..	..	..	..	..	..	..	..	..
11.	..	..	..	..	..	..	I.M.	B.M.	T(2)
12.	..	..	..	..	..	..	..	P.M.	...
13.	..	..	..	..	..	..	..	..	..
14.	..	..	..	..	..	..	B.M.	I.M.	T(2)
15.	..	..	..	..	..	..	..	..	..
16.	..	..	..	..	..	..	I.M.	B.M.	K
17.	..	..	..	..	..	..	I.M.	T(2)	T(2)
18.	..	..	..	..	..	..	XI.	B.M.	T
19.	..	..	..	..	..	..	..	..	..
20.	..	..	..	P.M.	..	..	B.M.	B.M.	R(1)
21.	..	..	..	..	..	..	..	T(2)	..
22.	..	..	..	..	..	..	..	I.M.	..
23.	..	..	..	..	..	..	..	I.M.	..
24.	..	..	..	..	..	..	B.M.	B.M.	..
25.	..	..	..	..	..	..	..	..	..
26.	..	..	..	..	..	..	..	..	..
27.	..	..	..	..	..	..	..	..	..

Emperor.	سهارنپور Sahāranpūr.			سهرند Sahrind.		
	N	Æ	Æ	N	Æ	Æ
1. Bābur	..	..	..	..	..	..
2. Humāyūn	..	..	..	..	..	..
3. Akbar	..	..	I.M.	D.C.		I.M.
4. Jahāngīr	..	..	..	..	..	..
5. Jahāngīr and Nūr Jahān	..	..	..	..	..	..
6. Dāwar Bakhsh ..	..	..	..	..	..	..
7. Shāh Jahān ..	..	..	..	..	..	..
8. Aurangzeb, ʻĀlamgīr ..	..	W	..	..	I.M.	..
9. Murād Bakhsh ..	..	..	..	..	..	..
10. Shāh Shujāʻ ..	..	..	..	..	..	..
11. Shāh ʻĀlam Bahādur ..	..	..	..	..	I.M.	..
12. Aʻẓam Shāh ..	..	..	..	..	..	..
13. Kām Bakhsh ..	..	..	..	..	..	
14. Jahāndār Shāh ..	..	..	..	..	P.M.	
15. ʻAẓīmu-sh-shān ..	..	..	..	..	..	
16. Farrukhsiyar ..	..	..	..	XI.	P.M.	
17. Rafīʻu-d-darjāt ..	..	..	..	..	D(1)	
18. Rafīʻu-d-daula (Shāh Jahān II).	..	..	..	..	P.M.	
19. Muḥammad Ibrāhīm ..	..	..	..	..	..	
20. Muḥammad Shāh ..	..	..	..	XI.	I.M.	
21 Aḥmad Shāh Bahādur	..	..	..	XI.	I.M.	..
22. ʻĀlamgīr II ..	..	..	..	XI.	I.M.	..
23 Shāh Jahān III ..	..	..	..	..	..	..
24. Shāh ʻĀlam II ..	..	P.M.	I.M.	..	..	..
25 Bedār Bakht ..	..	..	..	..	..	..
26. Akbar II	..	..	..	..	..	..
27. Bahādur II ..	..	..	..	..	..	..

	قنوج						شاہ جہان‌اباد		
	شاہ آباد قنوج SHĀHĀBĀD QANAUJ.			شاہ گڑھ قنوج SHĀHGARH QANAUJ.			SHĀHJAHĀNĀBĀD.		
	N	*Æ*	*Æ*	*N*	*Æ*	*Æ*	*N*	*Æ*	*Æ*
1.	..	..	..	..	..	..	..	..	..
2.	..	..	..	..	..	..	..	..	..
3.	..	..	..	..	..	I.M.	..	..	..
4.	..	..	..	..	..	..	..	..	..
5.	..	..	..	..	..	..	..	..	..
6.	..	..	..	..	..	..	..	..	..
7.	..	..	..	..	..	..	B.M.	B.M.	XV.
8.	..	..	..	..	..	..	B M.	B.M.	P.M.
9.	..	..	..	..	..	..	..	..	..
10.	..	..	..	..	..	..	..	..	..
11.	..	..	..	..	..	..	B.M.	B.M.	XV.
12.	..	..	..	..	..	..	..	..	..
13.	..	..	..	..	..	..	..	..	—
14	..	..	..	..	..	..	B.M.	B.M.	..
15	..	..	..	..	..	..	..	..	—
16	..	..	..	..	..	..	B.M.	B.M.	..
17	..	..	..	..	..	..	B.M.	B.M.	..
18	..	..	..	..	..	..	B.M.	I.M.	..
19.	..	..	..	..	..	..	B.M.	B.M.	..
20.	XI.	B.M.	..	..	..	..	B.M.	B.M.	R(1)
21.	..	D(1)	..	..	..	..	B.M.	B.M.	..
22.	..	P.M.	..	..	..	..	B.M.	B.M.	P.M.
23.	..	K	..	..	..	..	P.M.	B.M.	..
24.	..	B.M.	..	..	..	..	B.M.	B.M.	P.M.
25.	..	..	..	..	..	..	B.M.	B.M.	..
26.	..	..	..	..	..	..	I.M.	B.M.	I.M.
27.	..	..	..	..	..	..	..	B.M.	..

Emperor.	شولا پور Sholāpūr.		
	N	R	E
1. Bābur	..	..	..
2. Humāyūn	..	..	..
3. Akbar	..	..	..
4. Jahāngīr	..	..	..
5. Jahāngīr and Nūr Jahān	..	..	..
6. Dāwar Bakhsh ..	..	..	..
7. Shāh Jahān ..	..	..	..
8. Aurangzeb ʻĀlamgīr ..	I.M.	I.M.	R(1)
9. Murād Bakhsh ..	..	..	..
10. Shāh Shujāʻ ..	..	..	—
11. Shāh ʻĀlam Bahādur ..	..	XIV.	R(1)
12. Aʻẓam Shāh ..	..	..	..
13. Kām Bakhsh ..	..	..	..
14. Jahāndār Shāh ..	..	..	..
15. ʻAẓīmu-sh-shān ..	..	..	..
16. Farrukhsiyar ..	..	..	K
17. Rafīʻu-d-darjāt ..	..	..	..
18. Rafīʻu-d-daula (Shāh Jahān II).	..	..	..
19. Muḥammad Ibrahīm ..	..	..	..
20. Muḥammad Shāh ..	..	P.M.	..
21. Aḥmad Shah Bahādur	..	..	..
22. ʻĀlamgīr II ..	..	..	..
23. Shāh Jahān III ..	..	..	..
24. Shāh ʻĀlam II ..	..	..	..
25. Bedār Bakht ..	..	..	..
26. Akbar II	..	..	..
27. Bahādur II ..	..	..	..

	شیرپور SHERPŪR.			شیر گڑھ SHERGARH.			سیتپور SITPŪR.		
	N	R	Æ	N	R	Æ	N	R	Æ
1.	..	..	..	..	..	..	..	..	..
2.	..	..	..	..	..	..	..	..	..
3.	..	..	P.M.	..	L.M.	..	..	P.M.	..
4.	..	..	..	..	..	..	..	..	..
5.	..	..	..	..	..	..	..	..	..
6.	..	..	..	..	..	..	..	..	..
7.	..	..	..	..	..	..	..	..	..
8.	..	..	..	..	..	..	..	..	..
9.	..	..	..	..	..	..	..	..	..
10.	..	..	..	..	..	..	..	..	..
11.	..	..	..	..	..	..	..	..	..
12.	..	..	..	..	..	..	..	..	..
13.	..	..	..	..	..	..	..	..	..
14.	..	..	..	..	..	..	..	..	..
15.	..	..	..	..	..	..	..	..	..
16.	..	..	..	..	..	..	..	..	..
17.	..	..	..	..	..	..	..	..	..
18.	..	..	..	..	..	..	..	..	..
19.	..	..	..	..	..	..	..	..	..
20.	..	..	..	..	..	..	..	..	..
21.	..	..	..	..	..	..	..	..	..
22.	..	..	..	..	..	..	..	..	..
23.	..	..	..	..	..	..	..	..	..
24.	..	..	..	..	..	..	..	..	..
25.	..	..	..	..	..	..	..	..	..
26.	..	..	..	..	..	..	..	..	..
27.	..	..	..	..	..	..	..	..	..

Emperor.	سیکاکل Sikākul.			ظفرآباد Ẓafarābād.		
	N	R	E	N	R	E
1. Bābur	..	..	..	..	..	..
2. Humāyūn	..	..	..	..	..	..
3. Akbar	..	..	..	..	..	..
4. Jahāngīr	..	..	..	..	..	..
5. Jahāngīr and Nūr Jahān	..	..	..	..	..	..
6. Dāwar Bakhsh ..	..	..	..	..	..	..
7. Shāh Jahān ..	..	..	..	..	P.M.	..
8. Aurangzeb ʻĀlamgīr ..	..	..	..	P.M.	B.M.	..
9. Murād Bakhsh ..	..	..	..	..	..	..
10. Shāh Shujāʻ ..	..	..	..	..	..	..
11. Shāh ʻĀlam Bahādur ..	B	.	..	..	..	..
12. Aʻẓam Shāh ..	..	..	..	..	..	..
13. Kām Bakhsh ..	..	..	..	..	..	..
14. Jahāndār Shāh ..	..	..	..	..	..	..
15. ʻAẓīmu-sh-shān ..	..	..	..	..	..	..
16. Farrukhsiyar ..	P.M.	..	..	..	..	..
17. Rafīʻu-d-darjāt ..	..	..	..	..	..	..
18. Rafīʻu-d-daula (Shāh Jahān II).	..	..	..	..	..	..
19. Muḥammad Ibrāhīm ..	..	..	..	..	..	..
20. Muḥammad Shāh ..	..	..	..	..	..	..
21. Aḥmad Shāh Bahādur ..	..	P.M.	..	..	..	..
22. ʻĀlamgīr II ..	..	..	..	..	XII.	..
23. Shāh Jahān III ..	..	..	..	..	..	..
24. Shāh ʻĀlam II ..	..	..	..	D.C.	..	..
25. Bedār Bakht ..	..	..	..	..	..	..
26. Akbar II	..	..	..	..	..	..
27. Bahādur II ..	..	..	..	..	..	..

	ظفر پور Zafarpūr.			ظفر نگر Zafarnagar.			عالمگیر پور 'Ālamgīrpūr.		
	N	R	Æ	N	R	Æ	N	R	Æ
1.	..	..	..	..	..	..	..	..	..
2.	..	..	..	..	..	..	..	..	..
3.	..	..	..	..	..	..	..	..	..
4.	..	..	..	..	P.M.	..	..	..	
5.	..	..	..	..	..	..	..	..	..
6.	..	..	..	..	..	..	..	..	..
7.	..	..	..	..	I.M.	..	..	..	..
8.	P.M.	B.M.	..	..	..	..	P.M.	B.M.	..
9.	..	..	..	..	..	..	..	..	..
10.	..	..	..	..	..	..		..	..
11.	..	..	..	..	..	..	..	I.M.	..
12.	..	..	..	..	..	..	..	..	..
13.	..	..	..	..	..	..	..	..	..
14.	..	..	..	..	..	..	..	..	..
15.	..	..	..	..	..	..	..	..	
16.	..	..	..	..	..	..	..	P.M	..
17.	..	..	..	..	..	..	..	..	..
18.	..	..	..	..	..	..	..		..
19.	..	..	..	..	..	..	..	..	..
20.	..	..	..	..	..	..	..	XV.	..
21.	..	..	..	..	..	..	..	..	..
22.	..	..	..	..	..	..	..	..	..
23.	..	..	..	..		..		..	..
24.	..	..	..	..	..	..	..	..	..
25.	..	..	..	..	..	..	..	..	..
26.	..	..	..	..	..	..	..	..	..
27.	..	..	..	..	..	..	..	..	..

Emperor.	عظیم اباد 'Āẓimābād.			فتح اباد دهارور Fatḥābād Dhārūr.		
	Ⱥ	Ɍ	Æ	Ⱥ	Ɍ	Æ
1. Bābur	..	..	..	..	..	..
2. Humāyūn	..	..	..	..	..	..
3. Akbar	..	..	..	..	..	..
4. Jahāngīr	..	..	..	..	..	..
5. Jahāngīr and Nūr Jahān	..	..	..	..	..	..
6. Dāwar Bakẖsh	..	..	..	..	..	..
7. Shāh Jahān ..	..	..	..	..	..	..
8. Aurangzeb 'Ālamgīr ..	Bh.	I.M.	R(1)	..	..	..
9. Murād Bakẖsh ..	..	..	..	..	..	..
10. Shāh Shujā' ..	..	..	..	..	..	..
11. Shāh'Ālam Bahādur ..	B.M.	B.M.[1]	..	..	..	..
12. A'ẓam Shāh ..	..	..	..	..	..	..
13. Kām Bakẖsh ..	..	..	..	..	..	..
14. Jahāndār Shāh ..	..	..	..	..	XIII.	..
15. 'Aẓīmu-sh-shān ..	..	..	..	..	..	..
16. Farrukẖsiyar ..	XI.	B.M.	..	..	II.	..
17. Rafī'u-d-darjāt ..	..	..	..	..	..	..
18. Rafī'u-d-daula (Shāh Jahān II).	..	B.M.	..	..	..	..
19. Muḥammad Ibrāhīm ..	..	..	..	..	..	..
20. Muḥammad Shāh ..	St.	B.M.	..	..	..	..
21. Aḥmad Shāh Bahādur	St.	B.M.	..	..	..	..
22. 'Ālamgīr II	..	B.M.	..	..	..	..
23. Shāh Jahān III ..	I.M.	I.M.	..	..	..	..
24. Shāh 'Ālam II ..	B.M.	B.M.	..	..	..	..
25. Bedār Bakẖt ..	..	..	..	..	..	..
26. Akbar II	..	..	..	..	..	..
27. Bahādur II ..	..	..	..	..	..	..

[1] Also of Shāh 'Ālam Bahādur as Mu'aẓẓam Shāh: Ɍ, XV.

	فتحپور . FATḤPŪR.	فرخ اباد						
		فرخ اباد FARRUKHĀBĀD.			احمد نگر فرخ اباد AḤMADNAGAR FARRUKHĀBĀD.			
	N	R	Æ	N	R	Æ	N	R	Æ
1.	..	..	..	..	..	..	..	..	..
2.	..	..	..	..	..	..	..	..	..
3.	P.M.	B.M.	B.M.	..	..	..	..	..	..
4.	G[1]	G[1]	..	..	..	..	..	..	..
5.	..	..	..	..	..	..	..		..
6.	..	..	..	..	..	..	..	..	..
7.	..	P.M.	..	..	..	..	..	..	..
8.	..	..	..	..	..	..	..	..	..
9.	..	..		..	..	..	..	..	..
10.	..	..	..	..	..	..	..	..	..
11.	..	..	..	..	..	..	..	..	..
12.	..	..	..	..	..	..	..	..	..
13.	..	..	..	..	..	..	..	..	..
14.	..	..	..	..	..	..	..	..	..
15.	..	..	..	..	..	..	..	..	..
16.	..	..	..	..	I.M.	..	..	..	..
17.	..	..	..	..	..	..	..	..	..
18.	..	..	..	..	..	..	..	..	..
19.	..	..	..	..	..	..	..	..	..
20.	..	..	..	L.M.	B.M.	..	..	..	..
21.	..	..	..	XI.	B.M.	..	..	..	..
22.	..	..	..	..	W	..	B.M.	B.M.	..
23.	..	..	..	..	..	..	B.M.	B.M.	..
24.	..	..	..	..	B.M.[2]	..	B.M.	B.M.	..
25.	..	..	..	..	..	..	..	..	..
26.	..	..	..	..	..	..	..	..	..
27.	..	..	..	..	..	...	..	..	

[1] Zodiacal. [2] E. I. Co.

Emperor.	فرخ نگر Farrukhnagar.			فیروز گڑہ Firozgarh.		
	N	*R*	*E*	*N*	*R*	*E*
1. Bābur	..	..	..	..	..	..
2. Humāyūn	..	..	..	..	..	..
3. Akbar	..	..	..	..	..	..
4. Jahāngīr	..	..	..	..	..	.
5. Jahāngīr and Nūr Jahān	..	..	..	..	..	..
6. Dāwar Bakhsh ..	..	..	..	..	..	..
7. Shāh Jahān ..	..	..	..	..	..	..
8. Aurangzeb ʻĀlamgīr ..	..	..	..	..	..	..
9. Murād Bakhsh ..	..	..	..	..	..	..
10. Shāh Shujāʻ ..	..	..	..	..	..	..
11. Shāh ʻĀlam Bahādur ..	..	..	..	P.M.	P.M.	..
12. Aʻzam Shāh ..	..	..	..	..	..	..
13. Kām Bakhsh ..	..	..	..	..	..	..
14. Jahāndār Shāh ..	..	..	..	..	..	..
15. ʻAẓīmu-sh-shān ..	..	..	..	..	..	..
16. Farrukhsiyar ..	..	..	..	..	..	..
17. Rafīʻu-d-darjāt ..	..	..	..	..	..	..
18. Rafīʻu-d-daula (Shāh Jahān II).	..	..	..	..	..	..
19. Muḥammad Ibrāhīm ..	..	..	..	..	..	..
20. Muḥammad Shāh ..	..	..	..	..	..	..
21. Aḥmad Shāh Bahādur	..	..	..	..	..	..
22. ʻĀlamgīr II ..	..	..	..	..	..	..
23. Shāh Jahān III ..	..	..	..	..	..	..
24. Shāh ʻAlam II ..	..	..	R(1)	..	..	..
25. Bedār Bakht ..	..	..	..	..	..	..
26. Akbar II	..	..	..	..	..	..
27. Bahādur II ..	..	..	..	..	..	..

	فیروز نگر Firoznagar.			قمر نگر Qamarnagar.			قندهار Qandahār.		
	N	Æ	Æ	N	Æ	Æ	N	Æ	Æ
1.	..	..	..	..	..	..	..	..	..
2.	..	..	..	..	..	..	..	P.M.	P.M.
3.	..	..	..	..	..	..	..	..	..
4.	..	..	..	..	..	..	B.M.	P.M.	
5.	..	..	..	..	..	..	..	..	..
6.	..	..	..	..	..	..	..	..	..
7.	..	..	..	..	..	..	..	B.M.	..
8.	..	..	..	..	..	..	..	..	..
9.	..	..	..	..	..	..	..	..	..
10.	..	..	..	..	..	..	..	..	..
11.	..	B.M.	..	..	..	..	..	..	..
12.	..	..	..	..	..	..	..	..	..
13.	..	..	..	..	..	..	..	..	..
14.	..	..	..	..	..	..	..	..	..
15.	..	..	..	..	..	..	..	..	..
16.	..	..	..	..	..	..	..	..	..
17.	..	..	..	..	..	..	..	..	..
18.	..	..	..	..	..	..	..	..	..
19.	..	..	..	..	..	..	..	..	..
20.	..	K	..	..	I.M.	..	..	..	..
21.	..	..	..	..	..	..	..	..	..
22.	..	..	..	..	..	..	..	..	..
23.	..	..	..	..	..	..	..	..	..
24.	..	B.M.	..	..	..	..	..	..	..
25.	..	..	..	..	..	..	..	..	..
26	..	..	..	..	..	..	..	..	..
27.	..	..	..	..	..	..	..	..	..

Emperor.	قندهار Qandahār (S. India.)			کابل Kābul.		
	Ⱥ	Æ	Æ	Ⱥ	Æ	Æ
1. Bābur	..	..	..	..	P.M.	..
2. Humāyūn	..	..	..	..	P.M.	..
3. Akbar	..	..	..	..	B.M.	B.M.
4. Jahāngīr	..	..	..	..	[1]B.M.	P.M.
5. Jahāngīr and Nūr Jahān	..	..	..	..	..	..
6. Dāwar Bakhsh.. ..	..	..	..	..	..	..
7. Shāh Jahān ..	..	..	..	P.M.	B.M.	..
8. Aurangzeb ʻĀlamgīr ..	..	..	..	I.M.	B.M.	R(1)
9. Murād Bakhsh ..	..	..	..	..	..	..
10. Shāh Shujāʻ ..	..	..	..	..	..	..
11. Shāh ʻĀlam Bahādur ..	..	..	..	..	P.M.	..
12. Aʻẓam Shāh ..	..	..	..	..	..	..
13. Kām Bakhsh ..	..	..	..	..	..	..
14. Jahāndār Shāh ..	..	..	..	..	..	R(1)
15. ʻAẓīmu-sh-shān ..	..	..	..	..	..	..
16. Farrukhsiyar ..	..	..	..	..	Wh.	R(2)
17. Rafīʻu-d-darjāt ..	..	..	..	P.M.	XV.	..
18. Rafīʻu-d-daula (Shāh Jahān II).	..	..	..	..	..	..
19. Muḥammad Ibrāhīm ..	..	..	..	..	..	..
20. Muḥammad Shāh ..	..	XIV.	..	P.M.	P.M.	P.M.
21. Aḥmad Shāh Bahādur	..	..	..	..	..	..
22. ʻĀlamgīr II ..	..	..	..	..	L.M.	..
23. Shāh Jahān III ..	..	..	..	..	..	..
24. Shāh ʻĀlam II ..	..	..	..	..	..	..
25. Bedār Bakht ..	..	..	..	..	..	..
26. Akbar II	..	..	..	..	..	..
27. Bahādur II ..	..	..	..	..	..	

[1] Also of Jahāngīr as Salīm: Æ. I.M.; and Æ, P.M.

	کالپي Kālpi.			کانان Kānān.			کتک Katak.		
	N	*R*	*E*	*N*	*R*	*E*	*N*	*R*	*E*
1.	..	..	..	..	..	..	..	.	..
2.	..	..	..	..	..	..	..	..	..
3.	..	I.M.	I.M.	..	..	..	..	..	..
4.	..	..	..	..	..	..	..	K	..
5.	..	..	..	..	..	..	..	..	..
6.	..	..	..	..	..	..	..	..	..
7.	..	..	..	..	..	..	..	I.M.	..
8.	..	..	..	..	..	..	XI.	I.M.	P.M.
9.	..	..	..	..	..	.	..	..	..
10.	..	..	..	..	..	..	..	..	..
11.	..	..	..	..	..	..	..	..	..
12.	..	..	..	..	..	..	..	..	..
13.	..	..	..	..	..	..	..	..	..
14.	..	..	..	..	..	..	..	..	..
15.	..	..	..	..	..	..	..	..	..
16.	..	..	..	..	..	..	..	B.M.	..
17.	..	..	..	..	..	..	..	..	..
18.	..	..	..	..	..	..	..	..	..
19.	..	..	..	..	..	..	..	..	..
20.	..	..	..	..	..	..	XI.	I.M.	..
21.	..	P.M.	..	..	..	..	..	I.M.	..
22.	..	T	..	..	..	..	..	..	..
23.	..	..	..	..	..	..	..	..	..
24.	..	W	..	..	..	I.M.	..	XIII.	..
25.	..	..	..	..	..	..	..	..	..
26.	..	..	..	..	..	..	..	..	..
27.	..	..	..	..	..	..	..	..	..

Emperor.	کوار اباد Karārābād.			کرپا Karpā.		
	N	R	E	N	R	E
1. Bābur	..	..	..	..	..	..
2. Humāyūn	..	..	..	..	..	..
3. Akbar	..	..	..	..	..	..
4. Jahāngīr	..	..	..	..	..	..
5. Jahāngir and Nūr Jahān	..	..	..	..	..	..
6. Dāwar Bakhsh ..	..	..	..	..	..	..
7. Shāh Jahān ..	..	..	..	..	..	..
8. Aurangzeb ʻĀlamgīr ..	..	..	..	..	XV.	..
9. Murād Bakhsh ..	..	..	..	..	..	..
10. Shāh Shujāʻ ..	..	..	..	..	..	..
11. Shāhʻālam Bahādur ..	..	..	..	..	..	..
12. Aʻẓam Shāh ..	..	..	..	..	..	..
13. Kām Bakhsh ..	..	..	..	..	..	..
14. Jahāndār Shāh ..	..	II.	..	..	..	..
15. ʻAẓīmu-sh-shān ..	..	..	..	..	..	..
16. Farrukhsiyar ..	..	VIII.	..	..	..	..
17. Rāfīʻu-d-darjāt ..	..	..	..	..	..	..
18. Rafīʻu-d-daula (Shāh Jahān II).	..	..	..	..	..	..
19. Muḥammad Ibrāhīm ..	..	..	..	..	..	..
20. Muḥammad Shāh ..	..	..	..	..	..	..
21. Aḥmad Shāh Bahādur	..	..	..	..	..	..
22. ʻĀlamgīr II ..	..	..	..	..	..	..
23. Shāh Jahān III ..	..	..	..	..	..	..
24 Shāh ʻĀlam II ..	..	..	..	..	..	..
25 Bedār Bakht ..	..	..	..	..	..	..
26. Akbar II	..	..	..	..	..	..
27. Bahādur II ..	..	..	..	..	..	..

	کریم اباد KARIMĀBĀD.			کشمیر KASHMIR.			کلانور KALĀNŪR.		
	N	*R*	*E*	*N*	*R*	*E*	*N*	*R*	*E*
1.	..	..	..	..	..	..	..	..	..
2.	..	..	..	..	..	..	..	..	..
3.	..	..	..	P.M.	..	..	..	..	R(1)
4.	..	..	..	K	B.M.	..	..	..	..
5.	..	..	..	..	..	..	..	..	..
6.	..	..	..	..	..	..	..	..	..
7.	..	..	..	XI.	B.M.	D(1)	..	..	..
8.	..	K	..	*I.M.*	P.M.	..	..	..	..
9.	..	..	..	..	..	..	..	..	..
10.	..	..	..	..	..	..	..	..	..
11.	..	I.M.	..	..	P.M.	..	..	..	..
12.	..	..	..	..	..	..	..	..	..
13.	..	..	..	..	..	..	..	..	..
14.	..	..	..	..	..	..	..	..	..
15.	..	..	..	..	..	..	..	..	..
16.	..	..	..	P.M.	..	..	..	..	..
17.	..	..	..	..	..	..	..	..	..
18.	..	..	..	..	..	..	..	..	..
19.	..	..	..	..	..	..	..	..	..
20.	..	..	..	B.M.	I.M.	P.M.	..	..	..
21.	..	..	..	..	P.M.	..	..	..	..
22.	..	..	..	..	P.M.	..	..	..	..
23.	..	..	..	..	..	..	..	..	..
24.	..	.	..	..	..	..	..	..	..
25.	..	..	..	..	..	..	..	..	..
26.	..	..	..	..	..	..	..	..	..
27.	..	..	..	..	..	..	..	..	..

Emperor.	کلکتہ Kalkatta.			کورا Korā.		
	N	R	E	N	R	E
1. Bābur	..	..	..	..	..	..
2. Humāyūn	..	..	..	..	..	..
3. Akbar	..	..	..	..	..	W
4. Jahāngīr	..	..	..	..	..	..
5. Jahāngīr and Nūr Jahān	..	..	..	..	..	..
6. Dāwar Bakhsh ..	..	..	..	..	..	..
7. Shāh Jahān ..	..	..	..	..	..	..
8. Aurangzeb ʻĀlamgīr ..	..	..	..	..	..	..
9. Murād Bakhsh ..	..	..	..	..	..	..
10. Shāh Shujāʻ ..	..	..	..	..	..	..
11. Shāh ʻĀlam Bahādur ..	..	..	..	..	..	..
12. Aʻẓam Shāh ..	..	..	..	..	..	..
13. Kām Bakhsh ..	..	..	..	..	..	..
14. Jahāndār Shāh ..	..	..	..	..	..	..
15. ʻAẓīmu-sh-shān ..	..	..	..	..	..	..
16. Farrukhsiyar ..	..	..	..	..	..	..
17. Rafīʻu-d-darjāt ..	..	..	..	..	B.M.	..
18. Rafiʻu-d-daula (Shāh Jahān II).	..	..	..	..	XIV.	..
19. Muḥammad Ibrāhīm ..	..	..	..	..	..	..
20. Muḥammad Shāh ..	..	..	..	XI.	B.M.	..
21. Aḥmad Shāh Bahādur	..	..	..	..	Wh.	..
22. ʻĀlamgīr II ..	..	VI[1]	..	B.M.	..	..
23. Shāh Jahān III ..	..	..	..	..	..	..
24. Shāh ʻĀlam II ..	..	B.M.	B.M.	..	I.M.	..
25. Bedār Bakht ..	..	..	..	..	..	..
26. Akbar II	..	..	..	..	..	..
27. Bahādur II ..	..	..	..	..	..	..

[1] Roman numeral.

	کونچ Kūnch.			کنبایت Kambāyat.			کرت پور Kiratpūr.		
–	N	Æ	Æ	N	Æ	Æ	N	Æ	Æ
1.	..	..	..	..	..	..	..	..	..
2.	..	..	..	..	..	..	..	..	..
3.	..	..	..	..	..	..	..	..	K
4.	..	..	..	..	..	..	..	..	..
5.	..	..	..	..	..	..	..	..	..
6.	..	..	..	..	..	..	..	..	..
7.	..	..	..	I.M.	I.M.	..	..	..	..
8.	..	..	..	I.M.	B.M.	..	..	..	..
9.	..	..	..	B.M.	B.M.	..	..	..	..
10.	..	..	..	..	..	..	..	..	..
11.	..	..	..	St.	I.M.	W	..	..	..
12.	..	..	..	..	..	..	..	..	..
13.	..	..	..	..	..	..	..	..	..
14.	..	..	..	..	P.M.	..	..	..	..
15.	..	..	..	..	..	..	..	..	..
16.	..	..	..	..	P.M.	..	..	..	..
17.	..	..	..	..	T	..	..	..	..
18.	..	..	..	..	T	..	..	..	..
19	..	..	..	..	..	..	..	..	..
20.	..	..	..	..	I.M.	..	..	..	..
21.	..	..	..	..	I.M.	..	..	..	..
22.	..	..	..	..	I.M.	..	..	..	..
23.	..	..	..	..	..	..	..	..	..
24.	..	W	..	..	..	..	..	..	..
25.	..	..	..	..		..	..	..	..
26.	..	..	..	..	..	..	..	..	..
27.	..	..	..	..	..	..	..	..	–

Emperor.	گدروله Gadraula.			گلبرگه Gulbarga.		
	Ⱥ	Ⱥ	Ⱥ	Ⱥ	Ⱥ	Ⱥ
1. Bābur	..	..	..	..	..	..
2. Humāyūn	..	..	..	..	..	..
3. Akbar	..	XI.	..	..	..	..
4. Jahāngīr	..	..	..	..	..	..
5. Jahāngīr and Nūr Jahān	..	..	..	..	..	..
6. Dāwar Bakhsh ..	..	..	..	..	..	..
7. Shah Jahān ..	..	..	..	..	..	..
8. Aurangzeb ʻĀlamgīr ..	..	..	..	I.M.	I.M.	R(1)
9. Murād Bakhsh ..	..	..	..	..	..	..
10. Shāh Shujāʻ ..	..	..	..	..	..	..
11. Shāh ʻĀlam Bahādur ..	..	..	..	..	..	..
12. Aʻẓam Shāh ..	..	..	..	..	..	.
13. Kām Bakhsh ..	..	..	..	..	K	..
14. Jahāndār Shāh ..	..	..	..	I.M.	..	..
15. ʻAẓīmu-sh-shān ..	..	..	..	..	..	..
16. Farrukhsiyar ..	..	..	..	..	..	..
17. Rafīʻu-d-darjāt ..	..	..	..	..	..	..
18. Rafīʻu d-daula (Shāh Jahān II).	..	..	..	..	..	..
19. Muḥammad Ibrāhīm ..	..	..	..	..	..	..
20. Muḥammad Shāh ..	..	..	..	..	..	..
21. Aḥmad Shāh Bahādur ..	..	..	..	..	..	..
22. ʻĀlamgīr II ..	..	..	..	..	..	..
23. Shāh Jahān III ..	..	..	..	..	..	..
24. Shāh ʻĀlam II ..	..	..	..	..	..	..
25 Bedār Bakht ..	..	..	..	..	..	..
26. Akbar II	..	..	..	..	..	..
27. Bahādur II ..	..	..	..	..	..	..

	گلشن اباد GULSHANĀBĀD.			گلکندہ GULKANDA.			گوالیار GWĀLIĀR.		
	N	*R*	*E*	*N*	*R*	*E*	*N*	*R*	*E*
1.	..	..	..	..	..	..	..	..	..
2.	..	..	..	..	..	..	..	..	..
3.	..	..	..	..	..	..	..	..	B.M.
4.	..	..	..	..	..	..	..	..	..
5.	..	..	..	..	..	..	..	..	..
6.	..	..	..	..	..	..	..	..	..
7.	..	..	..	P.M.	I.M.	..	..	..	..
8.	..	..	..	B.M.	B.M.	..	..	P.M.	..
9.	..	..	..	..	..	..	..	..	..
10.	..	..	..	..	..	..	..	..	..
11.	..	..	..	..	..	..	..	..	..
12.	..	..	..	..	..	..	..	..	..
13.	..	..	..	..	..	..	..	..	..
14.	..	..	..	..	..	..	B	K	..
15.	..	..	..	..	..	..	..	..	..
16.	..	XIV.	..	..	..	..	..	B.M.	..
17.	..	..	..	..	..	..	..	P.M.	..
18.	..	..	..	..	..	..	..	P.M.	..
19.	..	..	..	..	..	..	..	..	..
20.	..	..	..	..	..	..	XI.	I.M.	..
21.	..	..	..	..	..	..	..	XV.	..
22.	..	..	..	..	..	..	..	P.M.	..
23.	..	..	..	..	..	..	..	..	..
24.	..	..	..	..	..	..	..	P.M.	K
25.	..	..	..	..	..	..	..	..	..
26.	..	..	..	..	..	..	..	..	..
27.	..	..	..	..	..	..	..	..	..

Emperor.	گوبند پور Gobindpūr.			گوتي Gūti.		
	N	R	E	N	R	E
1. Bābur	..	..	..	..	..	..
2. Humāyūn	..	..	..	..	..	..
3. Akbar	..	..	I.M.	..	..	..
4. Jahāngīr	..	..	..	..	..	..
5. Jahāngīr and Nūr Jahān	..	..	..	..	..	..
6. Dāwar Bakhsh ..	..	..	..	..	..	..
7. Shāh Jahān ..	..	..	..	..	..	..
8. Aurangzeb ʻĀlamgīr ..	..	..	..	..	D(1)[1]	..
9. Murād Bakhsh ..	..	..	..	..	..	..
10. Shāh Shujāʻ ..	..	..	..	..	..	..
11. Shāh ʻĀlam Bahādur ..	..	..	..	..	VIII.	..
12. Aʻẓam Shāh ..	..	..	..	..	..	..
13. Kām Bakhsh ..	..	..	..	..	..	..
14. Jahāndār Shāh ..	..	..	..	..	..	..
15. ʻAẓīmu-sh-shān ..	..	..	..	—	..	..
16. Farrukhsiyar ..	..	..	..	B.M.	..	..
17. Rafīʻu-d-darjāt ..	..	..	..	..	..	..
18. Rafīʻu-d-daula (Shāh Jahān II).	..	..	..	..	..	..
19. Muḥammad Ibrāhīm ..	..	..	..	..	..	..
20. Muḥammad Shāh ..	..	..	..	..	..	..
21. Aḥmad Shāh Bahādur	..	..	..	..	..	..
22. ʻĀlamgīr II ..	..	..	..	..	..	..
23. Shāh Jahān III ..	..	..	..	..	..	..
24. Shāh ʻĀlam II ..	..	..	..	..	..	..
25. Bedār Bakht ..	..	..	..	..	..	..
26. Akbar II	..	..	..	..	..	..
27. Bahādur II ..	..	..	..	..	..	..

[1] Doubtful attribution.

	گورکپور GORAKPŪR.			گوکل گڑھ GOKULGARH.			گوکل گڑھ GOKULGARH (S. INDIA.)		
	N	*R*	*E*	*N*	*R*	*E*	*N*	*R*	*E*
1.	..	..	..	..	..	..	..	..	..
2.	..	..	..	..	..	..	..	..	..
3.	..	..	P.M.	..	..	..	..	..	..
4.	..	..	..	..	..	..	..	..	..
5.	..	..	..	..	..	..	..	..	..
6.	..	..	..	..	..	..	..	..	..
7.	..	..	..	..	..	..	..	..	..
8.	..	..	..	..	..	..	..	..	..
9.	..	..	..	..	..	..	..	..	..
10.	..	..	..	..	..	..	..	..	..
11.	..	..	..	..	..	..	..	..	..
12.	..	..	..	..	..	..	..	..	..
13.	..	..	..	..	..	..	..	R(3)[1]	..
14.	..	..	..	..	..	..	..	..	..
15.	..	..	..	..	..	..	..	..	..
16.	..	..	..	..	..	..	..	..	..
17.	..	..	..	..	..	..	..	..	..
18.	..	..	..	..	..	..	..	..	..
19.	..	..	..	..	..	..	..	..	..
20.	..	..	..	..	..	..	..	..	..
21.	..	..	..	..	..	..	..	..	..
22.	..	..	..	..	..	..	..	..	..
23.	..	..	..	..	..	..	..	..	..
24.	..	..	..	..	I.M.	..	..	..	..
25.	..	..	..	..	..	..	..	..	..
26.	..	..	..	..	..	..	..	..	..
27.	..	..	..	..	..	..	..	..	..

[1] Also VIII.

Emperor.	گوهد Gohad.			لاهور Lāhor.		
	N	*R*	*E*	*N*	*R*	*E*
1. Babur	..	..	..	..	B.M.	..
2. Humāyūn	..	..	..	..	B.M.	I.M.
3. Akbar	..	..	I.M.	B.M.	B.M.	B.M.
4. Jahāngīr	..	..	..	B.M.	B.M.	..
5. Jahāngīr and Nūr Jahān	..	..	..	Paris[1]	B.M.	..
6. Dāwar Bakhsh ..	..	..	..	..	B.M.	..
7. Shāh Jahān ..	..	..	..	B.M.	B.M.[2]	..
8. Aurangzeb ʻĀlamgīr ..	..	..	..	P.M.	B.M.	P.M.
9. Murād Bakhsh ..	..	..	..	..	..	..
10. Shāh Shujāʻ ..	..	..	..	..	..	..
11. Shāhʻ Ālam Bahādur ..	..	..	..	B.M.	B.M.	..
12. Aʻẓam Shāh ..	..	..	..	..	..	..
13. Kām Bakhsh ..	..	..	..	..	..	..
14. Jahāndār Shāh ..	..	..	..	..	I.M.	..
15. ʻAẓīmu-sh-shān ..	..	..	..	..	..	..
16. Farrukhsiyar ..	..	..	..	B.M.	B.M	..
17. Rafīʻu-d-darjāt ..	..	..	..	P M.	B.M.	..
18. Rafīʻu-d-daula (Shāh Jahān II) ..	..	..	..	I.M.	B.M.	..
19. Muḥammad Ibrāhīm ..	..	..	..	..	..	..
20. Muḥammad Shāh ..	..	..	..	B.M.	B.M.	..
21. Aḥmad Shāh Bahādur	..	..	..	P.M.	I.M.	..
22. ʻĀlamgīr II ..	..	..	..	B.M.	B.M.	I.M.
23. Shāh Jahān III ..	..	..	..	..	..	..
24. Shāh ʻĀlam II ..	..	XV.	L.M.	..		..
25. Bedār Bakht ..	..	..	..	..	..	..
26. Akbar II	..	..	..	..	..	..
27. Bahādur II ..	..	..	..	..	..	..

[1] Zodiacal: Bibliothèque Nationale.
[2] Also of Shāh Jahān with name Khurram: *R*, B.M.

	لکھنو Lakhnau.			لہری بندر Lahri Bandar.			مالپور Mālpūr.		
	Ⱥ	Ɽ	Æ	Ⱥ	Ɽ	Æ	Ⱥ	Ɽ	Æ
1.	..	K	..	..	..	..	..		..
2.	..	..	..	..	..	..	..	..	..
3.	..	..	I.M.	..	P.M.	..	W	B.M.	B.M.
4.	..	..	..	..	..	..	..	..	..
5.	..	..	..	..	..	..	..	..	..
6.	..	..	..	..	..	..	..	..	..
7.	P.M.	XI.	I.M.	..	..	..	..	..	..
8.	..	P.M.	R(1)	..	..	..	..	..	..
9.	..	..	..	..	..	..	..	..	..
10.	..	..	..	..	..	..	..	..	..
11.	..	I.M.	..	..	..	..	..	..	..
12.	..	..	..	..	..	..	..	..	..
13.	..	..	..	..	..	..	..	..	..
14.	..	I.M.	..	..	..	..	..	..	..
15.	..	..	..	..	..	..	..	..	..
16.	..	I.M.	..	..	..	..	..	..	..
17.	..	XIV.	..	..	..	..	..	..	..
18.	..	P.M.	..	..	..	..	..	..	..
19.	..	..	..	..	..	..	..	..	..
20.	..	P.M.	..	..	..	..	..	..	..
21.	..	..	..	..	..	..	..	..	..
22.	..	..	..	..	..	..	..	..	..
23.	..	..	..	..	..	..	..	..	..
24.	..	..	..	..	..	..	..	..	..
25.	..	..	..	..	..	..	..	..	..
26.	..	..	..	..	..	..	..	..	..
27.	..	..	..	..	..	..	..	..	..

Emperor.	مانکپور Mānikpūr.			مانگہر Mānghar.		
	N	R	Æ	N	R	Æ
1. Bābur	..	..	..	..	..	.
2. Humāyūn	..	..	..	..	..	..
3. Akbar	..	..	B(1)	..	..	K
4. Jahāngīr	..	..	..	..	..	..
5. Jahāngīr and Nūr Jahān	..	..	..	..	..	..
6. Dāwar Bakhsh ..	..	..	..	..	..	..
7. Shāh Jahān ..	..	..	..	..	..	..
8. Aurangzeb ʻĀlamgīr ..	..	..	..	..	..	..
9. Murād Bakhsh ..	..	..	..	..	..	..
10. Shāh Shujāʻ ..	..	..	..	..	..	..
11. Shāh ʻĀlam Bahādur ..	..	..	..	..	..	..
12. Aʻẓam Shāh ..	..	..	..	..	..	..
13. Kām Bakhsh ..	..	..	..	..	..	..
14. Jahāndār Shāh ..	..	.	..	..	..	..
15. ʻAẓīmu-sh-shān ..	..	..	..	..	..	..
16. Farrukhsiyar ..	..	..	..	..	..	..
17. Rafīʻu-d-darjāt ..	..	..	..	..	..	..
18. Rafīʻu-d-daula (Shāh Jahān II).	..	..	..	..	..	..
19. Muḥammad Ibrāhīm ..	..	..	..	..	..	..
20. Muḥammad Shāh ..	..	..	..	..	..	..
21. Aḥmad Shāh Bahādur	..	..	..	..	..	..
22. ʻĀlamgīr II ..	..	..	..	..	..	..
23. Shāh Jahān III ..	..	..	..	..	..	..
24. Shāh ʻĀlam II ..	..	..	..	..	..	..
25. Bedār Bakht ..	..	.	..	..	..	..
26. Akbar II	..	.	..	..	..	..
27. Bahādur II ..	..		..	..	..	..

	اسلام اباد متهرا MATHURĀ, ISLĀMĀBĀD.			مجاهد اباد MUJĀHIDĀBĀD.			مچهلي پتن MACHHLĪPATAN.		
	N	*R*	*Æ*	*N*	*R*	*Æ*	*N*	*R*	*Æ*
1.	..	..	..	..	..	..	..	..	..
2.	..	..	..	..	..	..	..	..	..
3.	..	..	..	..	..	..	..	..	..
4.	..	..	..	..	..	..	..	..	..
5.	..	..	..	..	..	..	..	..	..
6.	..	..	..	..	..	..	..	..	..
7.	..	..	..	..	..	..	..	..	..
8.	..	..	..	..	..	..	..	B.M.	K
9.	..	..	..	..	..	..	..	..	..
10.	..	..	..	..	..	..	..	..	..
11.	..	..	..	..	..	..	..	..	Nag.
12.	..	..	..	..	..	..	..	..	..
13.	..	..	..	..	..	..	..	..	..
14.	..	..	..	..	..	..	..	..	..
15.	..	..	..	..	..	..	..	..	..
16.	..	..	..	..	..	..	B.M.	II.	K
17.	..	..	..	..	..	..	..	..	..
18.	..	..	..	..	..	..	..	..	..
19.	..	..	..	..	..	..	..	..	..
20.	..	..	..	..	..	..	B	VIII.	K
21.	..	..	..	VI	..	..	..	K	..
22.	..	..	..	..	..	..	..	P.M.	VI
23.	..	..	..	..	..	..	..	..	..
24.	P.M.	W	XV.	..	..	..	..	B.M.	B.M.
25.	..	..	..	..	..	..	..	..	..
26.	..	..	..	..	..	..	..	..	..
27.	..	..	..	..	..	..	..	..	..

1 Roman numeral.

Emperor.	محمد اباد Muḥammadābād.			محمد نگر Muḥammadnagar.		
	Ⱥ	Ɽ	Æ	Ⱥ	Ɽ	Æ
1. Bābur	..	..	..	..	..	..
2. Humāyūn	..	..	..	..	..	..
3. Akbar	..	..	..	..	..	..
4. Jahāngīr	..	..	..	..	..	..
5. Jahāngīr and Nūr Jahān	..	..	..	..	..	..
6. Dāwar Bakhsh ..	..	..	..	..	..	..
7. Shāh Jahān ..	..	..	..	..	..	..
8. Aurangzeb ʻĀlamgīr ..	P.M.	Wh.	..	..	..	..
9. Murād Bakhsh ..	..	..	..	..	..	..
10. Shāh Shujāʻ ..	..	..	..	..	..	..
11. Shāh ʻĀlam Bahādur ..	P.M.	P.M.	..	..	..	..
12. Aʻẓam Shāh ..	..	..	..	..	..	..
13. Kām Bakhsh ..	..	..	..	..	..	..
14. Jahāndār Shāh ..	..	..	..	..	..	..
15. ʻAẓīmu-sh-shān ..	..	..	..	..	..	..
16. Farrukhsiyar ..	..	..	..	..	..	..
17. Rafīʻu-d-darjāt ..	..	..	..	..	..	..
18. Rafīʻu-d-daula (Shāh Jahān II).	..	..	..	..	..	..
19. Muḥammad Ibrāhīm ..	..	..	..	..	..	..
20. Muḥammad Shāh ..	..	..	..	..	..	..
21. Aḥmad Shāh Bahādur	..	..	..	..	..	..
22. ʻAlamgīr II ..	..	..	..	..	..	..
23. Shāh Jahān III ..	..	..	..	..	..	..
24. Shāh ʻĀlam II ..	.	..	..	..	P.M.	..
25. Bedār Bakht ..	..	..	..	..	..	..
26. Akbar II	..	..	..	..	..	..
27. Bahādur II ..	..	..	..	..	..	..

	محمود بندر MAḤMŪD BANDAR.			مخصوص اباد MAKHṢŪṢĀBĀD.			عدن کوت MADAN KOT.		
	N	*R*	*Æ*	*N*	*R*	*Æ*	*N*	*R*	*Æ*
1.	..	..	..	..	..	..	..	..	..
2.	..	..	..	..	..	..	..	..	..
3.	..	..	..	..	..	..	..	..	K
4.	..	..	..	..	..	..	..	..	..
5.	..	..	..	..	..	..	..	..	..
6.	..	..	..	..	..	..	..	..	..
7.	..	..	..	..	..	..	..	..	..
8.	..	XIV.	..	..	I.M.	..	..	..	..
9.	..	..	..	..	..	..	..	..	..
10.	..	..	..	..	..	..	..	..	..
11.	..	..	..	..	..	..	..	..	..
12.	..	..	..	..	..	..	..	..	..
13.	..	..	..	..	..	..	..	..	..
14.	..	..	..	..	..	..	..	..	..
15.	..	..	..	..	..	..	..	..	..
16.	..	..	..	..	..	..	..	..	..
17.	..	..	..	..	..	..	..	..	..
18.	..	..	..	..	..	..	..	..	..
19.	..	..	..	..	..	..	..	..	..
20.	..	..	..	..	..	..	..	..	..
21.	..	..	..	..	..	..	..	..	..
22.	..	..	..	..	..	..	..	..	..
23.	..	..	..	..	..	..	..	..	..
24.	..	..	..	..	..	..	..	..	..
25.	..	..	..	..	..	..	..	..	..
26.	..	..	..	..	..	..	..	..	..
27.	..	..	..	..	..	..	..	..	..

Emperor.	مراد اباد Murādābād.			مرشد اباد Murshidābād.		
	Ⱥ	Ɍ	Æ	Ⱥ	Ɍ	Æ
1. Bābur	..	..	..	..	..	..
2. Humāyūn	..	..	..	..	..	..
3. Akbar	..	..	..	..	..	..
4. Jahāngīr	..	..	..	..	..	..
5. Jahāngīr and Nūr Jahān	..	..	..	..	..	..
6. Dāwar Bakhsh ..	..	..	..	..	..	..
7. Shāh Jahān ..	..	..	..	..	..	..
8. Aurangzeb ʻĀlamgīr ..	..	P.M.	..	XI.	I.M.	..
9. Murād Bakhsh ..	..	..	..	..	..	..
10. Shāh Shujāʻ ..	..	..	..	..	..	..
11. Shāhʻālam Bahādur ..	..	K	..	..	I.M.[1]	..
12. Aʻẓam Shāh ..	..	..	..	..	..	..
13. Kām Bakhsh ..	..	..	..	..	..	..
14. Jahāndār Shāh ..	..	..	..	..	B	..
15. ʻAẓīmu-sh-shān ..	..	..	..	..	..	..
16. Farrukhsiyar ..	..	..	..	B.M.	B.M.	..
17. Rafiʻu-d-darjāt ..	..	..	..	..	K	..
18. Rafiʻu-d-daula (Shāh Jahān II).	..	..	..	..	B.M.	..
19. Muḥammad Ibrāhīm ..	..	..	..	..	..	..
20. Muḥammad Shāh ..	..	..	..	I.M.	B.M.	..
21. Aḥmad Shāh Bahādur	..	B.M.	..	..	B.M.	..
22. ʻĀlamgīr II ..	..	I.M.	..	..	B.M.	..
23. Shāh Jahān III ..	..	..	..	..	..	..
24. Shāh ʻĀlam II ..	..	I.M.	..	B.M.	B.M.	..
25. Bedār Bakht ..	..	..	—	..	..	..
26. Akbar II	..	..	..	..	..	..
27. Bahādur II ..	..	..	..	..	..	..

[1] Also of Shāh ʻĀlam Bahādur as Muʻaẓẓam Shāh: Ɍ, P.M.

	مصطفٰی اباد MUṢṬAFA-ĀBĀD.			مظفر گڑھ MUẒAFFARGAṚH.			معظم اباد MU'AẒẒAMĀBĀD.		
	N	R	Æ	N	R	Æ	N	R	Æ
1.	..	..	..	..	..	..	..	..	..
2.	..	..	..	..	..	..	..	..	..
3.	..	..	..	..	..	..	..	..	..
4.	..	..	..	..	..	..	..	..	..
5.	..	..	..	..	..	..		..	..
6.	..	..	..	..	..	..	..	..	..
7.	..	..	..	..	..	..	..	..	..
8.	..	..	..	..	..	..	..	K	..
9.		..	..	..	..	..	..	..	..
10.	..	..	..	..	..	..	..	..	..
11.	..	..	..	..	..	..	..	..	..
12.	..	..	..	..	..	..	..	..	..
13.	..	..	..	..	..	..	..	..	..
14.	..	..	..	..	..	..	B.M.	..	..
15.	..	..	..	..	..	..	..	..	..
16.	..	..	..	..	..	..	P.M.	..	..
17.	..	..	..	..		..	B.M.	..	..
18.	..	..	..	..	..	..	..	..	..
19.	..	..	..	..	..	..	..	..	..
20.	..	..	..	..	..	..	P.M.	Ca.	..
21.	..	..	..	..	..	..	..	..	..
22.	..	..	..	..	..	..	..	..	..
23.	..	..	..	..	..	..	..	..	..
24.	..	I.M.	..	..	I.M.	..	..	..	..
25.	..	..	..	..	..	..	..	..	..
26.	..	..	..	..	..	..	..	..	..
27.	..	..	..	..	..	..	..	..	..

Emperor.	ملتان Multān.			ملکه نگر Malikanagar.		
	Ⱥ	Æ	Æ	Ⱥ	Æ	Æ
1. Bābur	..	..	..	..	..	..
2. Humāyūn	..	..	..	..	..	..
3. Akbar	..	I.M.	B.M.	..	..	..
4. Jahāngīr	..	..	..	..	..	..
5. Jahāngīr and Nūr Jahān	..	..	..	..	..	..
6. Dāwar Bakhsh ..	..	..	..	..	..	..
7. Shāh Jahān ..	B.M.	B.M.	..	..	..	..
8. Aurangzeb ʻĀlamgīr ..	B.M.	B.M.	I.M.	P.M.	..	..
9. Murād Bakhsh ..	..	..	..	..	..	.
10. Shāh Shujāʻ ..	..	..	..	..	..	..
11. Shāh ʻĀlam Bahādur ..	St.	P.M.	..	..	..	..
12. Aʻẓam Shāh ..	..	..	..	..	..	..
13. Kām Bakhsh ..	..	..	..	..	..	..
14. Jahāndār Shāh ..	..	Wh.	..	..	..	..
15. ʻAẓīmu-sh-shān ..	..	..	..	..	..	..
16. Farrukhsiyar ..	B.M.	B.M.	..	..	..	..
17. Rafīʻu-d-darjāt ..	P.M.	P.M.	..	..	..	..
18. Rafīʻu-d-daula (Shāh Jahān II).	..	P.M.	..	..	..	..
19. Muḥammad Ibrāhīm ..	..	..	..	..	..	..
20. Muḥammad Shāh ..	XI.	I.M.	I.M.	..	..	..
21. Aḥmad Shāh Bahādur	P.M.	I.M.	..	..	..	..
22. ʻĀlamgīr II ..	P.M.	P.M.	..	..	..	..
23. Shāh Jahān III ..	..	..	..	..	..	..
24. Shāh ʻĀlam II ..	..	..	..	..	..	..
25. Bedār Bakht ..	..	..	..	..	..	..
26. Akbar II	..	..	..	..	..	..
27. Bahādur II ..	..	..	..	..	..	..

	ملهار نگر MULHĀRNAGAR.			صنبے MUMBAI.			مندسور MANDISOR.		
	N	R	E	N	R	E	N	R	E
1.	..	..	..	..	..	..	..	..	..
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3.	..	..	..	..	..	..	..	..	..
4.	..	..	..	..	..	..	..	..	..
5.	..	..	..	..	..	..	..	..	..
6.	..	..	..	..	..	..	..	..	..
7.	..	..	..	..	..	..	..	..	..
8.	..	..	..	..	..	..	..	..	..
9.	..	..	..	..	..	..	..	..	..
10.	..	..	..	..	..	..	..	..	..
11.	..	..	..	..	..	..	..	..	..
12.	..	..	..	..	..	..	..	..	..
13.	..	..	..	..	..	..	..	..	..
14.	..	..	..	..	..	..	..	..	..
15.	..	..	..	..	..	..	..	..	..
16.	..	..	..	..	W	..	..	..	..
17.	..	..	..	..	..	..	..	..	..
18.	..	..	..	..	T	..	..	..	..
19.	..	..	..	..	..	..	..	..	..
20.	..	..	..	..	B.M.	..	..	..	..
21.	..	..	..		T	..	..	..	..
22.	..	..	..	..	XV.	..	..	..	..
23.	..	..	..	..	..	..	..	..	..
24.	..	I.M.	..	B.M.	B.M.	..	..	W	..
25.	..	..	..	..	..	..	..	..	..
26.	..	..	..	..	..	..	..	..	..
27.	..	.	..	..	..	..	..	..	

Emperor.	مندو Mandū.			مونگیر Mūngir.		
	N	R	E	N	R	E
1. Bābur	..	..	..	..	..	..
2. Humāyūn	..	..	I.M.	..	..	..
3. Akbar	..	..	..	..	..	..
4. Jahāngīr	P.M.	..	..	..	..	..
5. Jahāngīr and Nūr Jahān	..	..	..	..	..	..
6. Dāwar Bakhsh ..	..	..	..	..	..	..
7. Shāh Jahān ..	..	..	..	..	..	..
8. Aurangzeb ʻĀlamgīr ..	..	..	..	..	..	..
9. Murād Bakhsh ..	..	..	..	..	..	..
10. Shāh Shujāʻ ..	..	..	..	..	..	..
11. Shāh ʻĀlam Bahādur ..	..	..	..	..	..	..
12. Aʻẓam Shāh ..	..	..	..	..	..	..
13. Kām Bakhsh ..	..	..	..	..	..	..
14. Jahāndār Shāh ..	..	..	..	..	..	..
15. ʻAẓīmu-sh-shān ..	..	..	..	..	..	..
16. Farrukhsiyar ..	..	..	..	..	..	..
17. Rafiʻu-d-darjāt ..	..	..	..	..	..	..
18. Rafiʻu-d-daula (Shāh Jahān II).	..	..	..	..	..	..
19. Muḥammad Ibrāhīm ..	..	..	..	..	..	..
20. Muḥammad Shāh ..	..	..	..	..	..	..
21. Aḥmad Shāh Bahādur..	..	..	..	..	..	..
22. ʻĀlamgīr II ..	..	..	..	..	..	..
23. Shāh Jahān III ..	..	..	..	..	..	..
24. Shāh ʻĀlam II ..	..	..	..	..	VI	..
25. Bedār Bakht ..	..	..	..	..	..	..
26. Akbar II	..	..	..	..	..	..
27. Bahādur II ..	..	..	..	..	..	..

1 Roman numeral.

	مهيندر پور MAHINDRAPŪR.			مهي سور MAHISOR. (MYSORE)			ميرتهه MIRTHA.		
	N	R	Æ	N	R	Æ	N	R	Æ
1.	..	..	..	..	..	..	..	..	..
2.	..	..	..	..	..	..	..	..	..
3.	..	..	..	..	..	..	..	..	I.M.
4.	..	..	..	..	..	..	..	..	..
5.	..	..	..	..	..	..	..	..	..
6.	..	..	..	..	..	..	..	..	..
7.	..	..	..	..	..	..	..	..	..
8.	..	..	..	..	..	..	..	..	..
9.	..	..	..	..	..	..	..	..	..
10.	..	..	..	..	..	..	..	..	..
11.	..	..	..	..	..	..	..	..	..
12.	..	..	..	..	..	..	..	..	..
13.	..	..	..	..	..	..	..	..	..
14.	..	..	..	..	..	..	..	..	..
15.	..	..	..	..	..	..	..	..	..
16.	..	..	..	..	..	..	..	..	..
17.	..	..	..	..	..	..	..	..	..
18.	..	..	..	..	..	..	..	..	..
19.	..	..	..	..	..	..	..	..	..
20.	..	..	..	..	..	..	..	..	..
21.	..	L.M.	..	..	..	..	..	..	..
22.	B.M.	B.M.	W	..	..	..	..	..	..
23.	P.M.	B.M.	..	..	..	..	..	..	..
24.	XI.	P.M.	P.M.	..	B.M.	..	..	..	..
25.	..	..	..	..	..	..	..	..	..
26.	..	..	..	..	..	..	..	..	..
27.	..	..	..	..	..	..	..	..	..

Emperor.	میلا پور Mailāpūr.			نارنول Nārnol.		
	N	Æ	Æ	N	Æ	Æ
1. Bābur	..	..	..	..	..	..
2. Humāyūn	..	..	..	..	..	..
3. Akbar	..	..	..	..	P.M.	B.M.
4. Jahāngīr	..	..	..	..	..	..
5. Jahāngīr and Nūr Jahān	..	..	..	..	..	..
6. Dāwar Bakhsh ..	..	..	..	..	..	..
7. Shāh Jahān ..	..	..	..	..	..	I.M.
8. Aurangzeb ʻĀlamgīr ..	..	P.M.	R(1)	..	B.M.	I.M.
9. Murād Bakhsh ..	..	..	..	..	..	..
10. Shāh Shujāʻ ..	..	..	..	..	..	..
11. Shāh ʻĀlam Bahādur ..	*B.M.*	*B.M.*	..	..	P.M.	..
12. Aʻzam Shāh ..	..	..	..	..	..	..
13. Kām Bakhsh ..	..	..	..	..	..	..
14. Jahāndār Shāh ..	..	..	..	..	..	..
15. ʻAẓīmu-sh-shān ..	..	..	..	..	..	..
16. Farrukhsiyar ..	..	..	..	..	..	..
17. Rafīʻu-d-darjāt ..	..	..	..	..	..	..
18. Rafīʻu-d-daula (Shāh Jahān II).	..	..	..	..	..	..
19. Muḥammad Ibrāhīm ..	..	..	..	..	..	..
20. Muḥammad Shāh ..	..	..	..	..	..	..
21. Aḥmad Shāh Bahādur	..	..	..	..	..	..
22. ʻĀlamgīr II ..	..	..	..	..	..	..
23. Shāh Jahān III ..	..	..	..	..	..	..
24. Shāh ʻĀlam II ..	..	..	..	..	..	..
25. Bedār Bakht ..	..	..	..	..	..	..
26. Akbar II	..	..	..	..	..	..
27. Bahādur II ..	..	..	..	..	..	..

	ناگور Nāgor.			نجف گڑھ Najafgaṛh.			نجیب اباد Najībābād.		
	Ⱥ	Ɽ	Æ	Ⱥ	Ɽ	Æ	Ⱥ	Ɽ	Æ
1.	..	..	..	..	..	..	..	..	..
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8.	..	..	..	..	..	..	..	..	..
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12.	..	..	..	..	..	..	..	..	..
13.	..	..	..	..	..	..	..	..	..
14.	..	..	..	..	..	..	..	..	..
15.	..	..	..	..	..	..	..	..	..
16.	..	..	..	..	..	..	..	..	..
17.	..	..	..	..	..	..	..	..	..
18.	..	..	..	..	..	..	..	..	..
19.	..	..	..	..	..	..	..	..	..
20.	..	..	..	..	..	..	..	..	..
21.	..	..	..	..	..	..	..	..	..
22.	..	P.M.	..	..	..	..	L.M.	I.M.	L.M.
23.	..	..	..	..	..	..	..	..	..
24.	..	P.M.	..	P.M	P.M.	L.M.	I.M.	B.M.	I.M.
25.	..	..	..	..	..	..	..	..	..
26.	..	..	..	..	..	..	..	..	..
27.	..	..	..	..	..	..	..	..	..

Emperor.	نروار Narwar.		
	N	Ṙ	Æ
1. Bābur	..	..	..
2. Humāyūn	..	..	..
3. Akbar	..	..	..
4. Jahāngīr	..	..	
5. Jahāngir and Nūr Jahān		..	..
6. Dāwar Bakhsh ..	..	..	..
7. Shāh Jahān ..	..	..	..
8. Aurangzeb ʻĀlamgīr ..	..	..	
9. Murād Bakhsh ..	..	..	..
10. Shāh Shujāʻ ..	..		..
11. Shāhʻālam Bahādur ..	..	..	..
12. Aʻẓam Shāh ..	..	..	..
13. Kām Bakhsh ..	..	..	..
14. Jahāndār Shāh ..	..	..	..
15. ʻAẓīmu-sh-shān ..	..	..	..
16. Farrukhsiyar	..	..	..
17. Rāfīʻu-d-darjāt ..	..	..	..
18. Rafīʻu-d-daula (Shāh Jahān II).	..	..	..
19. Muḥammad Ibrāhīm ..	..	..	..
20. Muḥammad Shāh ..	..	..	..
21. Aḥmad Shāh Bahādur	..	B.M.	..
22. ʻĀlamgīr II ..	..	I.M.	..
23. Shāh Jahān III ..	..	..	..
24 Shāh ʻĀlam II ..	..	P.M.	L.M.
25 Bedār Bakht ..	..	..	..
26. Akbar II	..	..	..
27. Bahādur II ..	..	..	..

	نصر الله نگر NAṢRULLANAGAR.			نصرت اباد NUṢRATĀBĀD.		
	Ⱥ	Ɽ	Æ	Ⱥ	Ɽ	Æ
1.	..	..	..	..	..	..
2.	..	..	..	..	..	..
3.	..	..	..	..	..	..
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5.	..	..	..	..	..	..
6.	..	..	..	..	..	..
7.	..	..	..	..	..	..
8.	..	..	..	XV.	B.M.	..
9.	..	..	..	..	..	..
10.	..	..	..	..	..	..
11.	..	..	..	..	Nag.	..
12.	..	..	..	..	..	..
13.	..	..	..	..	W	..
14.	..	..	..	..	..	..
15.	..	..	..	..	..	..
16.	..	..	..	..	..	..
17.	..	..	..	..	..	..
18.	..	..	..	..	..	..
19.	..	..	..	..	..	..
20.	..	..	..	..	..	..
21.	..	..	..	..	..	..
22.	..	..	..	..	..	..
23.	..	..	..	..	..	..
24.	..	W	..	..	..	..
25.	..	..	..	..	..	..
26.	..	..	..	..	..	..
27.	..	..	..	..	..	..

Emperor.	هاتهرس Hāthras.			صاحب اباد هانسي Hānsi, Ṣāḥibābād.		
	N	Æ	Æ	N	Æ	Æ
1. Bābur	..	..	..	..	..	..
2. Humāyūn	..	..	..	..	..	..
3. Akbar	..	..	..	..	..	..
4. Jahāngīr	..	..	..	..	..	..
5. Jahāngīr and Nūr Jahān	..	..	..	..	..	..
6. Dāwar Bakhsh.. ..	..	..	..	..	..	..
7. Shāh Jahān ..	..	..	..	..	..	..
8. Aurangzeb ʻĀlamgīr ..	..	..	..	..	..	..
9. Murād Bakhsh ..	..	..	..	..	..	..
10 Shāh Shujāʻ ..	..	..	..	..	..	..
11. ShāhʻĀlam Bahādur ..	..	..	..	..	..	..
12. Aʻẓam Shāh ..	..	..	..	..	..	..
13. Kām Bakhsh ..	..	..	..	..	..	..
14. Jahāndār Shāh ..	..	..	..	..	..	..
15. ʻAẓīmu-sh-shān ..	..	..	..	..	..	..
16. Farrukhsiyar ..	..	..	..	..	..	..
17. Rafīʻu-d-darjāt ..	..	..	..	..	..	..
18. Rafīʻu-d-daula (Shāh Jahān II).	..	..	..	..	..	..
19. Muḥammad Ibrāhīm ..	..	..	..	..	..	..
20. Muḥammad Shāh ..	..	..	..	..	..	..
21. Aḥmad Shāh Bahādur	..	..	..	..	..	..
22. ʻĀlamgīr II	..	..	..	..	..	..
23. Shāh Jahān III ..	..	..	..	..	..	..
24. Shāh ʻĀlam II ..	..	P.M.	..	..	W	..
25. Bedār Bakht ..	..	..	..	..	..	..
26. Akbar II	..	..	..	..	..	..
27. Bahādur II ..	..	..	..	..	..	..

هردوار

HARDWĀR.

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Emperor.						
	N	R	E	N	R	E
1. Bābur	..	..	..	..	..	..
2. Humāyūn	..	..	..	..	..	..
3. Akbar	..	..	..	..	..	..
4. Jahāngīr	..	..	..	..	..	..
5. Jahāngīr and Nūr Jahān	..	..	..	..	..	..
6. Dāwar Bakhsh ..	..	..	..	..	..	..
7. Shāh Jahān ..	..	..	..	..	..	..
8. Aurangzeb ʻĀlamgīr ..	..	..	..	..	..	..
9. Murād Bakhsh ..	..	..	..	..	..	..
10 Shāh Shujaʻ	..	..	..	..	..	..
11. Shāh ʻĀlam Bahādur ..	..	..	..	..	..	..
12. Aʻẓam Shāh ..	..	..	..	..	..	..
13. Kām Bakhsh ..	..	..	..	..	..	..
14. Jahāndār Shāh ..	..	..	..	..	..	..
15. ʻAẓīmu-sh-shan ..	..	..	..	..	..	..
16. Farrukhsiyar ..	..	..	..	..	..	..
17. Rafīʻu-d-darjāt ..	..	..	..	..	..	..
18. Rafīʻu-d-daula (Shāh Jahān II).	..	..	..	..	..	..
19. Muḥammad Ibrāhīm ..	..	..	..	..	..	..
20. Muḥammad Shāh ..	..	..	..	..	..	..
21. Ahmad Shāh Bahādur	..	..	..	..	..	..
22. ʻĀlamgīr II ..	..	..	..	..	..	..
23. Shāh Jahān III ..	..	..	..	..	..	..
24. Shāh ʻĀlam II ..	..	..	..	..	..	..
25. Bedār Bakht ..	..	..	..	..	..	..
26. Akbar II	..	..	..	..	..	..
27. Bahādur II ..	..	..	..	..	..	..

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Emperor.						
	Ā	Ā	Ā	Ā	Ā	Ā
1. Bābur	..	..	..	..	..	..
2. Humāyūn	..	..	..	..	..	..
3. Akbar	..	..	..	..	..	..
4. Jahāngīr	..	..	..	..	..	..
5. Jahāngīr and Nūr Jahān	..	..	..	..	..	..
6. Dāwar Bakhsh ..	..	..	..	..	..	..
7. Shāh Jahān ..	..	..	..	..	..	..
8. Aurangzeb ʻĀlamgīr ..	..	..	..	..	..	..
9. Murād Bakhsh ..	..	..	..	..	..	..
10. Shāh Shujāʻ ..	..	..	..	..	..	..
11. Shāh ʻĀlam Bahādur ..	..	.	..	..	..	..
12. Aʻẓam Shāh ..	..	..	..	..	..	..
13. Kām Bakhsh ..	..	..	..	..	..	..
14. Jahāndār Shāh ..	..	..	..	..	..	..
15. ʻAẓīmu-sh-shān ..	..	..	..	..	..	..
16. Farrukhsiyar ..	..	..	..	..	..	..
17. Rafīʻu-d-darjāt ..	..	..	..	..	..	..
18. Rafīʻu-d-daula (Shāh Jahān II).	..	..	.	..	..	..
19. Muḥammad Ibrāhīm ..	.	..	..	..	..	..
20. Muḥammad Shāh ..	..	..	..	..	..	..
21. Aḥmad Shāh Bahādur ..	..	..	..	..	..	..
22. ʻĀlamgīr II ..	..	..	..	..	..	..
23. Shāh Jahān III ..	..	..	..	..	..	..
24. Shāh ʻĀlam II ..	..	..	..	..	..	..
25. Bedār Bakht ..	..	..	..	..	..	..
26. Akbar II	..	..	..	..	..	..
27. Bahādur II ..	..	..	..	..	..	..

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Note.—The numeration of the article below is continued from p. 424 of the "Journal and Proceedings" for 1912.

116. Coins of Shāh Shujā', son of Shāh Jahān.

(With Plate XXVIII.)

There are two rupees of Shāh Shujā', the unsuccessful rebel son of Shāh Jahān and claimant to the imperial throne, in the British Museum. They are both of the 'square area' type extensively adopted by Shāh Jahān, and as is so often and annoyingly the case, the dies have been much larger than the discs, and the important marginal inscriptions are almost illegible. These coins are Nos. 690 and 691 in the British Museum Catalogue of the Coins of the Mughal Emperors of India, and their mints have been tentatively read as Akbarābād and Jalāonābād respectively. In N.S. VI, Mr. R. Burn, I.C.S., showed that these mint readings were probably incorrect—see also Mr. W. Irvine's paper in N.S. XII—but he did not make any suggestion as to the mint, or the mints, of the coins of Shāh Shujā'.

In addition to the two 'square area' type rupees in the British Museum, there is a rupee of a different type in the Lucknow Museum, which was described by Mr. Burn in the note already referred to. Just recently Dr. G. P. Taylor of Aḥmadābād found another specimen resembling that at Lucknow, and four years ago I got a 'square area' type rupee like B.M. No. 690, in the Delhi Bazar. These five specimens are all that are known of Shāh Shujā''s exceedingly rare currency.

The two British Museum coins are different varieties of the same type. Comparing them with my own specimen, also of this 'square area' type, I find that the reverse inscriptions (treating the Kalima side as the obverse) are :—

Type A. Square areas. Variety (I) (B.M. No. 690).

In square area :— بادشاہ غازے

شجاع صمدی

شـــــــاہ

Margins:— *Top* الدين محمد

Right صاحب قران ثاني

Bottom ?

Left cut.

In type B (see below) Shāh Shujā' is called the second Alexander, so possibly the inscription in the bottom margin is سكندر ثاني. If this is the case, the left margin should contain the name of the mint, and also the first part of the *laqab* or title Shāh Shujā' adopted when he assumed regal honours, as was the custom. I do not know what this was, and if history is altogether silent on the point, its elucidation will have to await the discovery of more coins.

TYPE A. SQUARE AREAS. VARIETY (II). (B.M. No. 691).

In square area:— محمد شاه شجاع احد

بادشاه غاز

Margins:— *Top* .....الدين [محمد]

Right صاحب قران ثاني

Bottom سكندر ثاني (؟)

Left cut

TYPE B. LUCKNOW MUSEUM SPECIMEN.

Obverse.

Kalima in square; marginal inscriptions:—

Top بصدق ابي بكر

Rest cut.

Reverse.

بهادر غازي

شـــــــاه

احد

محمد شاه شجاع

نے باد

سكندر ثاضو اكو

This reading differs from that of Mr. Burn[illegible], but I think there can be little doubt that the latter h[illegible], out I think contains the word ضرب and the first [illegible] of the last line The word اكبر at once suggests itself [illegible] part of the mint name. down to the name of a town beg[illegible], so our search has narrowed There are three well-known m[illegible]nning with the word Akbar —Akbarābād, Akbarpūr and [illegible]nts answering this requirement Akbarnagar.

Dr. Taylor's specimen is identical with that in the Lucknow Museum, but the bottom line of the reverse side is missing. Instead there is an additional top line containing the word محمد alone, with the usual transverse stroke below it. The obverse contains the Kalima in a square frame, with the date ۱۰۶۸ in the left-hand bottom corner. The right-hand and bottom marginal inscriptions are عدل عمر and بارزم عثمان respectively. The other margins are cut.

On the report of Shāh Jahān's serious illness, Shāh Shujā' who was at the time governor of the province of Bengal, was the first of the emperor's sons to rise. We know that he gave out that Shāh Jahān was already dead; so it is only reasonable to suppose that he had himself proclaimed king, his name inserted in the Friday prayers, and coin struck at the principal place or places of his governorship, before starting on his perilous expedition to Dehli. He chose the route past the city of Āgra (Akbarābād), but it is certain that he never reached this place because Āgra was occupied in force by Shāh Jahān himself, and it was from Āgra that the army of Sulaimān Shikoh, eldest son of prince Dārā, advanced against Shāh Shujā'. He was defeated, and forced to return to Bengal. So our mint must be either Akbarnagar or Akbarpūr, and the probabilities are all in favour of Akbarnagar. It was in Rājmaḥal (Akbarnagar) that Shāh Shujā' held his principal Court—Storia do Mogor, Vol. I, p. 228—and Akbarnagar was the recognized capital of that part of Bengal, and a well-known mint town of the Mughal Emperors. Manucci in connection with Shāh Shujā' also remarks that Rājmaḥal was that prince's principal residence.—*Ibid.*, p. 334

The suggested full reading of the Lucknow Museum type is therefore as follows :—

Obverse.

Kalima in square; date ۱۰۶۸ in left-hand bottom corner. Marginal inscriptions :—

Right عدل عمر

Bottom بارزم عثمان

Left علم علی

Top بصدق ابی بکر

Reverse.

محمد

ـــــ ـــــ

بهادر غازي

شـــــــــاه

احد

محمد شاه شجاع

ـــــــــ نے باد

سکندر نا ضرب اکبرنگر

R. B. Whitehead.

117. A new Type of silver Dírham of the Sassanian Monarch Zámásp (Jámásp).

(With Plate XXVIII.)

History says that when Kobád, the father of the celebrated Naushírwan the just (Khusrau I), was dethroned, and committed to safe custody in the "Castle of Oblivion," in A.D. 497, by the chief mobed (high priest of the Zoroastrian Religion), with the joint consent of other mobeds, and principal nobles, on account of his becoming a proselyte to one Mazdak, an impostor, his brother Zámásp was proclaimed as king with all the usual formalities.

Zámásp was noted for his love of justice, and for the mildness of his disposition.

Kobád, the ex-king, in a short time effected his escape from the "Castle of Oblivion." He then took refuge at the court of the great Khán of the Epthalites or white Huns, and by his aid with an army of 30,000 men invaded Persia, and offered battle to his generous and mild brother Zámásp, who declined the conflict, as he did not greatly desire a throne. Zámásp submitted to Kobád, and, vacating the throne in his favour, retired into private life. This happened in the year 499 A.D. Zámásp reigned from 497 to 499 A.D.

His coins of the double portrait have already been published. (Vide Dorn, Pl. XVIII, figs. 1 to 15.) They bear the regnal years from 1 to 3, and different mints.

The coin I have now the pleasure to describe is not a double portrait coin, but with a single portrait.

Figure 1.

Description :—

Metal—Silver.

Mint 𐭬𐭲 = مر = MR (Merv).

Date—Regnal year 3 𐭲𐭫𐭩 = ترین = 3.

Weight—61 grains.

Diameter—1·25 inch.

Obverse :—Bust of king to right within a dotted circle, with a crenellated crown similar in design to that of his broker Kobád (during his 2nd reign), but devoid of wings ; a crescent with a star in its bosom in front of the crown. Two crescents also appearing—one on each shoulder—just above ; a little distant from the centre of the crown, a crescent bearing a globe. The king wears a triple drop earring and a necklace. Outside the circle at the right, at the left, and at the bottom, a crescent.

Legend :—To right in front of face (reading from outside) in Pahalvi characters 𐭧22 = (a) sp = سپ (!)

Reverse :—Within a dotted circle, an Ātishdán[1] (fire receptacle) with flames ascending in a conical form. Two mobeds—one on either side of the Ātishdán—guarding the sacred fire each with a sword and a lance in his hands. No crescents appear outside the circle.

Legend :—To left (reading from inside) in Pahlavi characters 𐭲𐭫𐭩 = Trin = ترین = 3rd regnal year.

To right (reading from outside) in Pahlavi characters 𐭬𐭫 = مر = Mar = (Merv).

The reverse of this coin has a close resemblance to the reverse of coins of Khusrau I issued in the first four years of his reign, as well as in the first portion of the 5th regnal year. From the latter portion of the 5th regnal year right on till the 47th regnal year the reverse of his coins follows the devices of those of his father Kobád.

This Dirham was a great puzzle to me for a long time, as it bears only the last two letters of the name of Zámásp 𐭧𐭰𐭰 = سپ (ا) = (*a*) sp.

Inasmuch as the coins already known of Zámásp bear on their obverse the legend "𐭦𐭠𐭬" = زام = Zám, consisting of the first three letters of his name, this peculiarity of writing convinced me that Zámásp must have adhered to the principle of not having his name written in full on his coins, being content that only a portion of his name should appear.

For comparison with the Dirhams already known of Zámásp, I give an illustration of a Dirham in my cabinet (fig. 2) bearing the regnal year ترین = 𐭲𐭫𐭩 = Trin—3 and the Mint 𐭩𐭠𐭥 = بابا = Babá.

The coin figured as No. 1 is also in my possession.

Bombay. FRAMJEE JAMASJEE THANAWALLA.

118. ON THE HĀṬAKEŚVARA SĀI KORĪ.

Recently it was my good fortune to receive from Jūnagadh for inspection the only specimen at present known of the coin

[1] Commonly called by European writers a Fire Altar.

called the Hāṭakeśvara Śāl Korī. Dr. Codrington in his informing article on "The Coinages of Cutch and Kathiawar," an article communicated to the "Numismatic Chronicle" so long ago as 1895, devoted a dozen lines to a description of this type of coin, but his brief account closes with the frank admission, "I have not seen a specimen." Accordingly in a letter to Mr. Laurence Robertson, I.C.S., Administrator of the Jūnagadh State, I made enquiry regarding this coin, and not long thereafter he was so good as to send me the solitary specimen in the Jūnagadh Museum. A search for others had proved unsuccessful. It is thus an especial pleasure to be able now to supply a photograph kindly prepared by Mr. Henry Cousens, M.R.A.S., from a cast of this coin. It is noteworthy that the simple legends both of the Obverse and of the Reverse are written throughout in the Devanāgarī character. They read as follows:—

Obv.	ओ	*Rev.*	ओ
	हाटकेश्व		रघुनाथ
	रायनमः		जीनमः

Obv. Srī Hāṭak [e] śvarāya namaḥ; Salutation to the Blessed Hāṭakeśvara.

Rev. Srī Raghunāthajī namaḥ; Salutation to the Blessed Raghunāṭhajī.

The weight of the coin is 64 grains, and its diameter measures ·55 of an inch.

My friend Mr. Framji J. Thanawala informs me that the curved lines seen before the ओ both on the Obverse and on the Reverse resemble one of the conventional forms of the sacrosanct symbol OM.

Hāṭakeśvara, or 'the Lord Resplendent,' is one of the epithets applied to Śiva, who also bears the name of Su-varṇa, the god 'of brilliant hue.' Both hāṭakam and suvarṇam are Sanskrit terms for gold, the 'shining' metal, and it was under the symbol of a golden linga that Śiva was worshipped in the ancient temple of Hāṭakeśvara Mahādeva just outside the town of Vadnagar, some fifty-two miles north-east of Ahmadābād. One of the traditions current regarding the origin of this temple tells that when Śiva was about to be married to the beautiful Pārvatī, the 'mountain-maid,' her mother besought him to assume a comely form lest the bride should be terror-struck on beholding his ungainly appearance. In a clumsy attempt to comply with this request, Śiva dropped from his forehead six grains of rice, from which forthwith sprang up six Brāhmans. All these 'made' Brāhmans in process of time married Nāga wives, and, settling with them at Vadnagar, there built a

temple, wherein they installed, under the name of Hāṭakeśvara, the golden phallus entrusted to them of old by Śiva himself. This temple is still held in great reverence by the Nāgar Brāhmans, but owing, so the story runs, to Śiva's wrath that the town walls, when being built, had not been extended so as to include the temple-area, the Nāgars began to desert Vaḍnagar. Since that time so complete has been the exodus that in 1883 there was in the whole town but one house in which Nāgar Brāhmans were to be found, two solitary individuals, without a family.[1] But whithersoever the Nāgars may have migrated, they have not ceased to regard as their tutelary deity the Hāṭakeśvara of Vaḍnagar, and in many of the places of their adoption they have erected temples for the worship of this Hāṭakeśvara Mahādeva. Aḥmadabād has at least one such temple, so also has Goghā, and the Tārīkh-i-Soraṭh makes definite mention of others erected at Māṅgroḷ, and Navānagar, and Jūnagaḍh. Then too, beyond the limits of Gujarāt, it is as Hāṭakeśvara that Śiva receives divine honours on the banks of the Godāvarī, and as Hāṭakeśvara that he holds sway over Vitala, the second, according to the Padma Purāṇa, of the seven lower regions.

And now what of the Raghunāthajī to whom on the reverse of this coin reverence is accorded? Raghunātha is, it is true, one of the many names of Rāma, the seventh incarnation of Viṣṇu, but assuredly this cannot be the application of the name in the present instance: for it is well nigh incredible that one and the same coin should bear invocations both to Viṣṇu and to Śiva. The day of such amity between Vaiṣṇava and Śaiva has not yet dawned.

Doubtless then the popular tradition is correct in identifying this Raghunāthajī with the Dīwān of that name who a century ago was quite the most outstanding figure in the councils of the Jūnagaḍh State. The chief events of his life can readily be gleaned from the above-mentioned Tārīkh-i-Soraṭh, a History of the Provinces of Soraṭh and Hālār in Kāṭhiāwāḍ, written by his younger brother Raṇchhoḍjī, younger by five years, who in time himself became one of his successors in the office of Dīwān of Jūnagaḍh.

Born on the 23rd of June, 1763, Raghunāthajī experienced during his chequered life of fifty-six years his full share of the rough toss and tumble of those rude times. Of the Nāgar (or more correctly Nāga) caste, he possessed in an eminent degree the qualities characteristic of that caste, intelligence, a propensity for intrigue, and, above all, a capacity for state-management. His father, Amarjī, leaving the ancestral seat at Māṅgroḷ, was at the early age of eighteen

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[1] Bombay Gazetteer, Vol. VII, p. 625.

appointed to high office in the court of Mahābat Khān I, the Nawāb of Jūnagaḍh. In the hurly-burly of the State politics, this same Amarjī some eleven years later became the victim of a foul conspiracy, fomented by a vegetable seller, and the erstwhile Dīwān was with his two brothers cast into the State prison. Five months later they were released on condition of their paying a naẓrāna of 40,000 Jāmī korīs, while Amarjī's eldest son, the Raghunāthajī of our coin, then a boy of but ten years, was retained as a hostage. The child was now entrusted to the care of the Nawāb's favourite wife, the Bībī Sardār Bakhtā, who is said to have treated him like a mother. With another turn of the wheel of Fortune, Amarjī, who had meanwhile retired to Jetpūr, was invited back to Jūnagaḍh and there reinstated in his former office, the child-hostage being at the same time restored to his father. At the expiry of another period of eleven years, during which Ḥāmid Khān had mounted the gādī, this ruler, tempted by a base bribe of three lākhs offered him by Kumbhājī of Goṇḍal, compassed the death of the too trusting Amarjī. Under pressure, however, brought to bear by the Gāekwār, the Nawāb appointed Raghunāthjī, "the excellent son of the late Dīwānjī," his chief minister. For a youth of just twenty-one years this was a post of weighty responsibility; it was also one that entailed a never-ending conflict with counter-claimants and intriguers. It were a tedious task, and foreign to our present purpose, to narrate all the political vicissitudes that befell Raghunāthajī in the thirty-five years during which he proved himself a masterful administrator. Suffice it to say that, driven from office no less than six times, he was as often restored. On one occasion the Nawāb Ṣāḥib "with his usual faithlessness" imprisoned him and other Nāgars in return for their excellent service in conquering the country, their houses being plundered and their treasure confiscated. On his release two months later he and his two brothers, Raṇchhodjī and Dalpatrām, were expelled the State, but an invitation was at once extended to them by the Jām Ṣāḥib Jasājī of Navānagar. Raghunāthajī, however, had already become the one man indispensable to Jūnagaḍh, and before long the refugee was entreated to return. "'I was wrong. I was wrong,' said the Nawāb with his own gracious mouth, 'Forgive what has passed, I give you the Dīwānship.'" In 1811 Bahādur Khān II, on his accession to the throne, assured Raghunāthajī that no man except himself, whose family had held the Dīwānship for fifty years, could carry on the administration of the Government properly. The Dīwān Ṣāḥib, true to his salt, now accepted the office "in prepetuity for himself and his descendants." Three years later we find him on pilgrimage to Nāsik-Tryambak for the purpose of bathing in the Godāvarī-Gaṅgā, the river whose banks, as already stated, are held

sacred to Hāṭakeśvara, Raghunāthjī's *iṣṭa-devatā*. On his return to Kāṭhiāwāḍ, having completed the nuptials of his son, and performed the Mahārudra Yajña, he retired from the world, and engaged in the worship of his god, but, the record significantly adds, "Jam'dār 'Omar Mukhāṣam's enmity towards him did not abate." The attractions of office, however, eventually proved irresistible, for on the Jam'dār's expulsion from Jūnagaḍh "with concealed face and bare feet," the Dīwānī was again conferred on Raghunāthajī. On this occasion Captain Ballantyne, Political Agent of the Mahī Kāṇṭhā, informed the Nawāb that it was the order of the Sarkār Company Bahādur that he should permanently settle the office of Dīwān in the family of the Dīwān Ṣāḥib Amarjī. This re-investment would seem to have taken place in 1816 or 1817, yet but a few months later the Nawāb's favour was again alienated, whereupon Raghunāthajī finally retired into private life. Now at length the time had come when he could devote himself to religious contemplation, and in the seclusion of his retreat recall to memory the varying vicissitudes of his eventful career. Thus, in marked contrast to the storms he had encountered ever since his boyhood days, his last two years were years of quiet and calm. Of his death the Tārīkh-i-Soraṭh records :—"In Saṁvat 1875 in Āso Sud 10th (29th September 1819) the Dīwān Ṣāḥib Raghunāthajī, successor to the Dīwān Amarjī, departed to Kailāsa at the age of fifty-six years..... He was a worshipper of Śankara, literal brave, upright, veracious, skilled in business, a protector of the ra'īyats..... The world bewails his loss, and at Banāras several Sannyāsīs subsist comfortably at his expense."

This little coin equally with the common silver coin of Jūnagaḍh bears the name of Korī, but, if by Korī we are to understand a coin struck for the State currency, then most assuredly is the term inapplicable to our silverling. This cannot indeed rightfully claim to be regarded a coin at all. As defined in the New English (Oxford) Dictionary, a coin is "a piece of metal (gold, silver, copper, etc.) of definite weight and value, usually a circular disc, made into money by being stamped with an officially authoritative device." Now the ruling power at Jūnagaḍh was a Muḥammadan, and the Nawāb a Bābī deriving from Afghānistān: and it is thus incredible that he should have officially authorized for impression on the current coin of his State a legend explicitly honouring Śiva, the third member of the Hindu Triad. Also it would be strange indeed were he to sanction for his coinage the use of the Devanāgarī character alone without a single Persian letter. Then too on an Indian coin issued as currency in comparatively modern times we should expect to find engraven the ruler's name, or the name of the mint-town, or the year of issue, be it Hijrī or Saṁvat or the regnal year: but the

Hāṭakeśvara Sāī Korī supplies not one of these "elements." Hence we may confidently affirm that this little piece of silver was not stamped officially nor with any authorization by the Jūnagaḍh State. Why then was it issued? and when? and by whom? On these points no definite evidence is available, and one can only fall back on conjecture. The Devanāgarī character betokens a Hindu as the originator of the coin, and the salutation to Hāṭakeśvara, a Hindu of the Nāgar caste. Then on the Reverse the salutation to Raghunāthajī suggests, to my thinking at least, that the masterful Dīwān had already died, though his memory was still held in loving reverence. And, lastly, none but a man of considerable wealth and of assured position would have ventured to issue these silverlings, so like in their make to the current korīs. May we not then hold that Raghunāthajī's younger brother, Raṇchhoḍjī, himself a Dīwān of Jūnagaḍh, is responsible for this *quasi* coinage, and that it was struck, say, some six years subsequent to Raghunāthajī's decease, thus about A.D. 1825? To have launched it as a currency for the State would simply have resulted in arousing the Nawāb's anger, with consequent orders for the withdrawal of the coin from circulation. A far more probable assumption is that these silver pieces with their pious invocation to Śiva were originally intended to serve as the *dakṣiṇā*, or donation to the Brāhmans, who in such large numbers inflict themselves on the Native Courts. This conjecture, moreover, is quite on the lines of the still current local tradition attaching to these special "korīs."

One little piece of confirmatory evidence still remains. As is well known, a remarkable feature of the coinage, both silver and copper, of the Jūnagaḍh State is the presence, beneath the Persian legend, of the word दीवान, Dīwān in Devanāgarī, and the insertion of this word is universally attributed to the Dīwān Raṇchhoḍjī. It is thus clear that he did concern himself with the details of the coinage. May not then his first essay in this direction have given us the Hāṭakeśvara Sāī Korī?

Geo. P. Taylor.

Aḥmadābād.

119. The Mughal Coins of Cambay.

(With Plates XXX—XXXI.)

"Cambay is one of the old ports. According to the brahmins, several thousand years have passed since its foundation." So wrote the Emperor Jahāngīr in his "Memoirs."[1] It is not our province here to tell the story of the

1 Tūzuk-i-Jahāngīrī: Rodgers and Beveridge, p. 415.

ancient city, dating back as it does far into the legendary period. Originally known as Stambha-tīrtha, 'pillar-shrine,' that is to say, the shrine for the worship of Śiva under the symbol of a pillar, the name modified by phonetic changes,[1] still survives in the modern forms of Khambhāt (खंभात्) and Kambāyat (كنبايت). The Arab traveller Al Mas'ūdī (A.D. 915) tells of the prosperity of the place, which even in his day was famous for its sandals and its agates. Subject to the Chaulukya and later to the Vāghlā monarchs of Aṇhilvād, it surrendered about the year 1304 to the army of 'Alāu-d-dīn Khaljī, and for 430 years thereafter remained under Musalmān rule. About the middle of this period, and especially under the fostering hand of Maḥmūd Begadā (A.D. 1458-1511), the city reached the zenith of its glory. Early European travellers, naturally better acquainted with the ports of Western India than with its inland towns, were wont to call the country of Gujarāt the Kingdom of Cambay,[2] and to style the Sulṭān of Gujarāt the Prince of Cambay.[3]

In 1573 along with the rest of Gujarāt, Cambay was annexed by the Emperor Akbar, who does not, however, seem to have exercised in this city the victor's prerogative of issuing coins bearing his own name. Already the muhrs and rupees of Aḥmadābād, the Maḥmūdīs of Sūrat, and the Korīs of Kach and Navānagar doubtless sufficed for local currency. It is not till the reign of Akbar's successor that we meet with any reference to a distinctively Cambay coinage, and even then, it would seem, the issue was not for currency purposes but merely in commemoration of Jahāngīr's royal visit to the city. He states in his "Memoirs" —

"At this time [the twelfth regnal year] an order was given "that tankas of gold and silver should be coined twice the "weight of ordinary muhrs and rupees. The legend on the

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[1] Stambha-tīrtha = Skambha-tīrtha,
= Khambha-tīrtha,
= Khambha-ittha,
= Khambhā-ittha (Prākṛt),
= Khambhā-it,
= Khambhā-yat;
whence the variants Khambhāt, Khambāyat, and Kambāyat.

[2] In the sixteenth century Cambay could be used as a term synonymous with the Empire of the Great Mughal. Hakluyt records "A letter written from the Queenes Majestie to Zelabdim Echebar, King of Cambaia, and sent by John Newbery. In February Anno 1583." Hakluyt's "Voyages" (Maclehose's Reprint), V, 450.

[3] It is to the Gujarāt Sulṭān Maḥmūd Begadā, the Machamuth of Varthema, that reference is made in the well-known lines.

"The Prince of Cambay's daily food
Is asp and basilisk and toad."

Hudibras, Pt. II, Canto I.

"gold coin was on one side the words 'Jahāngīr-shāhī, 1027 "(1618),' and on the reverse 'Struck in Cambay in the 12th "year of the reign.' The legend for silver coins was on one "side 'Sikka, Jahāngīr-shāhī, 1027'; round it this hemistich, "'King Jahāngīr of the conquering ray struck this'; and on "the reverse, 'Coined at Cambay in the 12th year of the "reign,' with this second hemistich round it—'When after the "conquest of the Deccan he came to Gujarāt from Māndū.'"[1]

My friend Mr. N. D. Minocher-Homji, Professor of Persian at the Gujarāt Arts College, Aḥmadābād, has kindly looked up this passage in the Tūzuk-i-Jahāngīrī, and the extract he has sent me certainly seems to record the very words of these tanka legends. They read as follows:—

Gold Tanka.

Obv.: جهانگیر شاهی سنه ۱۰۲۷

Rev.: ضرب کهنبایت سنه ۱۲ جلوس

Silver Tanka.

Obv.: Area, جهانگیر شاهی سنه ۱۰۲۷

Margin, بزر این سکه زد شاه جهانگیر ظفر پرتو

Rev.: Area, ضرب کهنبایت سنه ۱۲ جلوس

Margin, پس از فتح دکن آمد چو در گجرات از ماندو

I am not aware that a single specimen of these Jahāngīrī tankas of Cambay is contained at the present day in any numismatic cabinet.

Of the Cambay mint the earliest coin known to me is a rupee of the Hijrī year 1051,[2] but from that date till the reign of 'Ālamgīr II the mint was in more or less active operation. Whether under the Mughal Emperors it ever issued any copper coins is doubtful: certainly none seem to have survived to one day. In all nine muhrs are in evidence, namely, two of Shāh Jahān I, one of Murād Bakhsh, and six (including two duplicates) of Aurangzēb. The following Table shows the reigns in

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[1] Tūzuk-i-Jahāngīrī: Rogers and Beveridge, pp. 417, 418.
In Dowson's Elliot, VI, 354, 355, these newly struck tankas are said to have been not two but "ten and twenty times heavier than the current gold mohur and rupee."

[2] In H. 1050 the imperial troops were despatched to chastise the Kolīs and Kāṭhīs in Gujarāt (Dowson's Elliot, VII, 18), and possibly it was during the period of this punitive expediton that the Mughal mint was opened in Cambay.

which any coins are known to have issued from the Cambay mint.

Reign.	Metal.		Reign	Metal.	
I. Shāh Jahān I .	G.	S.	VII. Rafī'al darajāt	..	S.
II. Murād Bakhsh .	G.	S.	VIII. Shāh Jahān II	..	S.
III. Aurangzēb . .	G.	S.	IX. Muḥammad Shāh	..	S.
IV. Shāh 'Alam I .	..	S.	X. Aḥmad Shāh .	..	S.
V. Jahāndār . .	..	S.	XI. 'Ālamgīr II .	..	S.
VI. Farrukh-siyar .	..	S.			

We now proceed to describe the Cambay coins of each of these reigns *seriatim*.

I. SHĀH JAHĀN I: A.H. 1037–1069; A.D. 1628–1659.

Gold: No. 1. 28-xxxx (Bleazby); 30–1067 (I.M.C. 852).

Obv.: Area square with looped corners:

لا اله الا الله

محمد

رسول الله

Margin lower: بصدق ابی بکر

,, left: و عدل عمر

,, upper: بازرم عثمان

,, right: و علم علي

Hijrī year in left margin.

Rev.: Area square with looped corners:

بادشاه غاز

شاه جهان

Margin upper: شهاب الدين

,, right: محمد صاحب

,, lower: قران ثاني

,, left: ضرب كهنبايت

Regnal year in right margin.

Silver: No. 1 : x–1051 : (Fig. 1).
Obv. and *Rev.* as on muhr No. 1.
But Hijrī year thus ۱۰۵۱ in right margin of obverse, and regnal year wanting.

Silver: No. 2: 20–1058: (Fig. 2).
Obv. and *Rev.* as on muhr No. 1.

Silver: No. 3: 24–xxxx: (Fig. 3).
Obv. and *Rev.* as on muhr No. 1.
But Hijrī year wanting, and regnal year ۲۴ in lower right corner of area of reverse.

Silver : No. 4: 26–1063 : (Fig. 4).
Obv. and *Rev.* as on muhr No. 1.
But Hijrī year thus ۱۰۶۳ in left margin of obverse, and regnal year ۲۶ in left margin of reverse.

Silver : No. 5 : 28–1064 ; 28–1065 ; 30–1067 ; x–1067 (Bleazby) ; 32–1069.
Same as silver No. 2.

The rupees Nos. 961–964 of I.M.C. are dated 1060, 1061, 1065 and 1068, but their regnal years are not given.

II. Murād Bakhsh : A.H. 1068; A.D. 1657–1658.

Gold : No. 1 : احد—1068 (Bleazby) : (Fig. 5).
Obv. : Area square with looped corners :

لا اله الا الله
محمد
رسول الله

Margin right : بصدق ابي بكر
,, lower : و عدل عمر
,, left : بازرم عثمان
,, upper : و علم علي

Hijrī year ۱۰۶۸ in lower margin.

Rev. : Area square with looped corners : ... Shah

بادشا غاز
محمد مراد بخش

Margin right : ابو المظفر
,, lower : محوج الدين
,, left : ضرب كهنجايت
,, upper : احد

Silver: No. 1: احد 1068.

Obv. and *Rev.* as on muhr No. 1.

Silver: No. 2: Ilahī احد Ādhar—1068: (Fig. 6).

Obv.: Area square with looped corners:

لا اله الا الله

محمد

رسول الله

Margin lower: بصدق ابي بكر

,, left: و عدل عمر

,, upper: با زرم عثمان

,, right: و علم علي

Hijrī year ١٠٦٨ in left margin.

Rev.: Area square with looped corners:

غازي

شـــــــاه

مراد بخش باد

Margin left: احد اذر ماه

,, upper: الهي ضرب لهنجايت

,, right: illegible.

,, lower: illegible.

The rupee No. 1117 of the I.M.C. is seemingly of this type. In that catalogue the reverse margins are entered as follow:—

Right: المظفر ج

ابو مؤو

Bottom: الدين

Top: ضرب لهنجايت

III. AURANGZĒB: A.H. 1068–1118: A.D. 1658–1707.

Gold: No. 1: احد—(?) 1071 (Bahāwalpūr Toshakhānā).

Obv. : عالم گیر

اورنگ زیب

ـــــــ اه

زد چو مهر منیر

ـــــــ که

.....

Hijrī year wanting.

Rev. : کهنجایت

مانوس ضر

میمنت

جلوس سنه احد

Regnal year احد to left of سنه

Gold No. 2: 7–1074 (I.M.C. 1130).

Obv. : As on muhr No. 1, but with دو جهان in bottom line.

Hijrī year over جهان

Rev. : مانوس

میمنت

جلوس سنه

ضرب

گ... ایت

Regnal year ۷ over سنه

Gold : No. 3 : 9–1077 (I.M.C. 1031 also in Br. Mus.).

Obv. : As on muhr No. 2.

Rev. : As on muhr No. 2,

but سنه جلوس.

Gold : No. 4 : 41–1109 (Lucknow Museum : also in Br. Mus.).

Obv : As on muhr No. 3.

Rev. : As on muhr No. 3,

but کنجایت

Silver : No. 1 : احد–1070 (Whitehead cabinet).

Obv. : عالم گیر
اورنگ زیب
شـــــاه
زد چو بدر منیر
ســـــــکه
در جهان
Hijrī year ۱۰۷۵ over جهان

Rev. : As on muhr No. 1.
Regnal year احد to left of سنه

Silver : No. 2 : 3–107x : (Fig. 7).
Obv. : As on rupee No. 1.
Hijrī year ۱۰۷ over جهان
Rev. : As on muhr No. 2.
Regnal year ۳ over سنه

Silver : No. 3 : 6–xxxx (I.M.C. No 1383).
Obv. : As on rupee No. 1.
Hijrī year wanting.
Rev. : مانوس
میمنت
سنه جلوس
ضرب
کهنجایت
Regnal year ٦ over سنه

Silver : No. 4 : 7–1075 : (Fig. 8).
Obv. : As on rupee No. 1.
Hijrī year ۱۰۷۵ over جهان
Rev. : مانوس
میمنت
جلوس سنه
ضرب
کنبایت
Regnal year ۷ over سنه

Note :—The mint-name is spelled Khambāyat on the rupee of regnal year 6 (see No. 3), but Kambāyat on that of the year 7,

and this latter form—Kambāyat—appears on all the rupees that subsequently issued from the mint. We find, however, Khambāyat on one type of the copper coins of the Cambay *State* currency.

Silver : No. 5.

Rupees : 7–1075 ; 9–1077 ; 11–1078 ; 12–1079 (B.M.) 14–1081 ; 1x–1081 (I.M.C.) ; 14–1082 ; 15–1083 (I.M.C.) ; 14–1084 ; 17–1084 ; 17–1085 ; 18–1085 (I.M.C.) ; 19–1087 ; 20–1088 ; 2x–1088 ; 22–1089 (Fig. 9) ; 2x–1089 (I.M.C.) ; 23–1090 (Bleazby) ; 2x–1090 ; 23–1091 (I.M.C.) ; 24–1091 ; 24–1092 ; 25–1093 ; 2x–1095 (I.M.C.) ; 28–1096 (I.M.C.) ; 29–1096 ; 30–1098 ; 31–1099 (I.M.C.) ; 32–1100 ; 33–1100 (I.M.C.) ; 33–1101 (I.M.C.) ; 34–1102 ; 36–1104 (I.M.C.) ; 3x–1104 (B.M.) ; 38–1106 ; xx–1106 (I.M.C.) ; 39–1107 ; 40–1107 ; 41–1109 ; 4x–1109 (B.M.C.) ; 43–1111 ; 45–1112.

Half-rupees : 19–1087 ; 24–1091 ; 3x–1098 ; 3x–1100 ; 34–1102.

Obv. : Rim of two linear circles with a circle of dots between them.

Legend as on rupee No. 1.

Hijrī year over جهان

Rev. :

مانوس

میمنت

سنه جلوس

ضرب

کنبایت

Regnal year over سنه

Note 1 :—It would seem that in the course of the year 7–1075 the position of سنه was changed from the left to the right of جلوس

Note 2 :—In the fourteenth regnal year there was clearly some carelessness in the dating of the rupees, for that year certainly could not have synchronized with all the three Hijrī years 1081, 1082, and 1084. Note also that one of the Cam-

bay rupees in the Indian Museum is dated 15–1083.

Silver: No. 6: x–1080; 47–1115 (Fig. 10); 48–1116 (B.M.); 49–1116 (I.M.C.); 51–1118.

Obv.: As on rupee No. 1.
Hijrī year in the Gāf of اورنگ زیب

Rev.: As on rupee No. 5.
Regnal year over سنه

Silver: No. 7: 41–1109 (Fig. 11).

Obv.: As on *muhr* No. 2.
Hijrī year ۱۱۰۹ over جهان

Rev.: As on rupee No. 5.
Regnal year ۴۱ over سنه

Note:—From Nos. 5 and 7 it is evident that in the year 41–1109 some rupees were issued bearing the چو بدر منیر and others the چو مهر منیر legend.

IV. Shāh ʻĀlam I, Bahadur: A.H. 1119–1124; A.D. 1707–1712.

Silver: No. 1: احد–1119: (Fig. 12).

Obv.:
غازي
شـــــاه
عالم باد
شـــــاه
سکه ۱۱۱۹

Hijrī year ۱۱۱۹ to left of سکه

Rev.:
مانوس
ظفـــر
جلوس سنه
ضرب
کنبایت

Regnal year احد over سنه

On the legend جلوس ظفر مانوس, 'the reign associated with victory,' see Num. Supplt. No. XI, pages 328, 329.

Silver: No. 2: 2–1121 (Bleazby); 4–1122 (Bleazby); 4–xxxx (Fig. 13); 5–xxxx (B.M.); and undated rupee (I.M.C. No. 1688).

Obv.: غازے
بادشاہ
بہادر
شاہ عالم
ک
سکہ مبار

Hijrī year wanting.

Rev.: مانوس
سنہ جلوس
میمنت
ضرب
کنبایت

Regnal year over سنہ

V. JAHĀNDĀR: A.H. 1124; A.D. 1712–13.

Silver: Rupee, احد–xxxx (Fig. 14); Half-rupee, احد–xxxx.

Obv.: جہاندار شہ
ے
چون مہر و ماہ ابو الفتح غاز
سکہ
در افاق زد

Hijrī year to left of زد

Rev.: مانو
سنہ جلوس س
میمنت
ضرب
کنبایت

Regnal year احد over سنہ

VI. FARRUKH-SIYAR: A.H. 1124–1131; A.D. 1713–1719.

Silver: No. 1: Rupee, احد–112x (Fig. 15); 5–1128 (Bleazby); Half-rupee, احد–112x.

Obv.:

حق فرخ سیر

شـــــــاه

از فضل باد بحر و بر

ســـــــــــکه

زد بر سیم و زر

Hijrī year ۱۱۲۰۰۰ below فضل

Rev.:

مانو

سنه جلوس س

ضرب

کنجایت

Regnal year احد over سنه

Silver: No. 2: 4–xx27; 5–xx28; 6–xx29 (Fig. 16); 7–1130.

Obv.:

بحر و بر فرخ سیر

شـــــــاه

از فضل حق باد

ســـــــــکه

زد بر سیم و زر

Hijrī year to left of Kāf of سکه

Rev.:

مانوس

میمنت

سنه جلوس

ضرب

کنجایت

Regnal year over سنه

VII. RAFI'AL DARAJĀT: A.H. 1131; A.D. 1719.

Silver: احد–xxxx: (Fig. 17).

Obv. : رفیع الدرجات

بر کا شاهنشه بحر و بر

سکه

زد بهند باهزاران

Hijrī year wanting.

Rev. : مانوس

میمنت

سنه جلوس

ضرب

کنبایت

Regnal year احد over سنه

On the specimen of this rupee in the cabinet of my friend Mr. Framji J. Thanawala, the Hijrī year [11] 31 is entered on the obverse to the left of the Kāf of سکه.

VIII. Shāh Jahān II (Rafī'al daulat) : A.H. 1131 ; A.D. 1719.

Silver : احد–1131 : (Fig. 18).

Obv. : بادشاه غاز

شاه جهان

سکه

مبارک

Hijrī year ۱۱۳۱ to left of Kāf of

Rev. : مانوس

میمنت

سنه جلوس

ضرب

کنبایت

Regnal year احد over سنه

IX. Muḥammad Shah : A.H. 1131–1161 ; A.D. 1719–1748.

Silver : احد–1132; 3–113x; 3–xxxx (I.M.C.); 6–1137 ? (I.M.C.); 9–11xx; 10–1140; 11–1142 (Bleazby); 11–114x; 12–114x; 13–1143; 15–1144 (Fig. 19); 15–1145; 16–114x; 17–11xx; 30–1160 (Bleazby); 3x–1161.

Obv. :

محمد شاه

بادشاه غاز

سکه مبار

Hijrī year to right of محمد

Rev. :

مانوس

میمنت

سنه جلوس

ضرب

کنجایت

Regnal year over سنه

X. AḤMAD SHĀH BAHĀDUR: A.H. 1161–1167; A.D. 1748–1754.

Silver: احد–11xx (Fig. 20); احد–xxxx (I.M.C.); 3–11xx (Bleazby); 2–116x; 3–1164.

Obv. :

احمد شاه بهادر

بادشاه غاز

سکه مبار

Hijrī year to right of احمد

Rev. :

مانوس

میمنت

سنه جلوس

ضرب

کنجایت

Regnal year over سنه

XI. ʿĀLAMGĪR II: A.H. 1167–1173; A.D. 1754–1759.

Silver: احد–11xx (Fig. 21); 6–1173 (Bleazby); 6–xxxx; x–1178 (sic).

Obv. :

عالم گیر

شـــاه

ـــــے

بادشاہ غاز

ـــــی

سکہ مبار

* Hijrī year above گیر of عالم گیر

Rev. :

مانوس

میمنت

سنہ جلوس

ضرب

کنجایت

Regnal year over سنہ

Though Cambay became practically independent of the Imperial power as early as A.D. 1730, its coins continued to bear the name of the regnant Mughal Emperor of Dehlī certainly till the time of 'Ālamgīr II, and possibly even later. After this quasi-imperial currency had ceased, the Nawābs issued both in silver and in copper a State coinage of rude workmanship which only four of five years ago was still in circulation.

GEO. P. TAYLOR.

AḤMADĀBĀD :
22nd November, 1912.

120. SOME KACHÁRI COINS.

(With Plate XXVIII.)

The silver coins described below were purchased at Haflong in the North Cachar Hills, and were probably unearthed in the neighbourhood of Maibong, the capital of the Kachári kings from A.D. 1536–1706.

I. Coins of Jaso Náráyana Deba.

(*a*) *Obv.* Sri Sri Jaso Náráyana Deba bhupálasya Sáke 1505.
Rev. Hara Gaurí Charana paráyana Háchengsá bangsaja.
Weight 165 gr.
Size 1·47 in.

(*b*) *Obv.* Sri Sri Jaso Náráyana Deba.
Rev. Hara Gauri Charana pará.
Weight 41·1 gr.
Size ·90 in.

II. Coins of Satrudaman *alias* Pratápa Náráyana.

(*a*) *Obv.* Sri Srindra Pratápa Ná.
Rev. Hari Charana Kamala.
Weight 39·6 gr.
Size ·9 in.

(*b*) *Obv.* Sri Srindra Pratápa Náráya.
Rev. Hara Gauri Charana pará.
Weight 36·3 gr.
Size ·9 in.

The inscriptions are in the Bengali character.

Satrudaman adopted the title of Pratápa Náráyana after defeating a force sent against him by the Ahom king Pratápa Simha in A.D. 1606, and the coins bearing that title were probably minted soon afterwards. The dated coin of Jaso Náráyana Deba was struck in A.D. 1583. I can find no record of a king bearing this title, but we have no information as to the names or dates of the Kachári kings from the time they deserted Dimapur in A.D. 1536 until A.D. 1603 when Satrudaman was on the throne.

The reference to the mythical descent from Ha-tsung-tsa claimed by the Kachári royal family (Gait's History of Ass page 243), is interesting. Except for this allusion to a m cal non-Hindu ancestry, the inscriptions on these Kachár resemble those on the issues of the kings

The coins now described are as the coins described by Mr. J.A.S.B., Vol. VI, No. 4; and w decipher that coin from the illu

Obv. Sri Sri
Rev. Hara G

The coin is thus of Támr Kachári's were driven from Rudra Simha in A.D. 1706.

Shillong.

121. Coins of M

(With P

I have tried since I h years ago to attribute the describe with hopes that so

matic Society may know them. In the sale catalogue they were merely described as 'Presentation Pieces.'

No. 1.

شهنشاه	ضرب
معظم	في
سلطان محمود غاز	المدينة المعمور
ي	٥٥٢
بن الجان	سنه جلوس

Size 1·75. Weight 5 rupees.

No. 2.

مخزن	قرص
امام	خزينة
آخر الزمان	المعمور

Size 1·5. Weight 3½ rupees.

آخر is I suppose meant for آخر 'the last.'

There are in the British Museum two pieces in gold quite similar to the above in size and legends, probably struck from the same dies; and one small gold and one small copper worked below, Nos. 3 and 4. These are marked in the Cabinet as issued by [illegible] shown why they are so attributed. Accurnūl in the "Imperial Gazetteer of culation.

AḤMADĀBĀD:
22nd November, 1912.

by the Nizām to the British in was left in possession of the a lac of rupees. Manavar brother Ghulām Rasūl Khān

120. SOME KĪL.

(With Plate [illegible] seum.

The silver coins described

المدنيه المعمورة	
٥١٢	ari kings
ضرب	

in the North Cachar Hills, and neighbourhood of Maibong, the from A.D. 1536–1706.

I. Coins of Jaso Náráyana

(*a*) *Obv.* Sri Sri [illegible] aráyana Deba bhupálasya Sáke 1505.

Rev. Hara Gauri Charana paráyana Háchengsá bangsaja.

Weight 165 gr.

Size 1·47 in.

No. 4. Copper. British Museum.

سلطان محمود	مدينة المعمور
غاز——ي	ضرب
	٥٥٢
بن الجان	سنه جلوس
ك——	ميمنت
سكه مبار	مانوس

There is little doubt I think as to the readings, but some of the phrases such as هذ الضرب and قرص I have not seen before on coins. It will be very interesting if one can be told who Maḥmūd Ġhāzī b. al-Jān was, and where the Madīnat al-M'amūr and the Khazīnat al-M'amūr were situated. The marks like an inverted heart seen before the numerals of the year are, I think, symbols not as at first sight they may be taken to be the Arabic cipher five.

OLIVER CODRINGTON.
London.

JANUARY, 1912.

The Adjourned Monthly General Meeting of the Society was held on Wednesday, the 10th January, 1912, at 9-15 p.m.

MAHĀMAHOPĀDHYĀYA HARAPRASĀD SASTRI, C.I.E., M.A., President, in the chair.

The following members were present:—

Maulavi Abdul Wali, Dr. N. Annandale, Prof. Nilmani Chakravarti, Mr. F. H. Gravely, Mr. D. Hooper, Rev. H. Hosten, S.J., Mr. G. R. Kaye, Mr. W Kirkpatrick, Dr. J. E. Pantony, Lieut.-Col. D. C. Phillott, Capt. R. B. Seymour Sewell, I.M.S., Mr. G. H. Tipper.

The minutes of the last meeting were read and confirmed.

Two hundred and fifty-two presentations were announced.

The General Secretary announced that Mr. J. N. Farquhar had collected a wish to withdraw from the Society.

The General Secretary also announced the death of Sir Joseph D. Hooker, an Honorary Fellow of the Society.

He read the following obituary notice of the death of Sir Joseph D. Hooker, contributed by Major A. T. Gage, I.M.S.:—

SIR JOSEPH DALTON HOOKER, O.M., G.C.S.I., F.R.S.

By the death of Sir Joseph Dalton Hooker, which occurred at his home, "The Camp," near Sunningdale, England, at 10.30 P.M. on Sunday, the 10th December 1911, our Society has lost its most venerable and most distinguished honorary member, and it is but fitting that the Society add its tribute to the multitudinous appreciations that are appearing all over the globe of the life and work of this very illustrious man of science. Hooker's wonderful career has been the theme in other places of other writers more worthily qualified to describe it than the contributor of this note, so that the latter must here be content to present but the briefest outline of Hooker's remarkable achievements.

Joseph Dalton Hooker, the second son of William (afterwards Sir William) Jackson Hooker, was born at Halesworth, in the county of Suffolk, on the 30th of June 1817. Ancestrally, his connections were with Devonshire, in which county the Hookers had lived for many generations. William Hooker was a gentleman of independent means with a strong bent for natural science, which was turned more particularly in the direction of botanical research by the influence of Sir

James E. Smith, the latter himself a distinguished botanist. Unsuccessful investments induced William Hooker to augment his income by turning his botanical knowledge to account and to accept the Chair of Botany in Glasgow University in 1820. It was accordingly at the High School and at the University of Glasgow that young Joseph Hooker received his early education, which was supplemented by the knowledge gained by devoting his spare time to work in his father's herbarium. In 1839 Hooker obtained the M.D. of Glasgow University, and qualified for the medical service of the navy. In the same year, when 22 years of age, he was attached as Assistant-Surgeon and Naturalist to the Government expedition under Sir James Clark Ross for the investigation of terrestrial magnetism in the Antartic. The expedition lasted from 1839 to 1843, and during it Hooker had the opportunity of visiting the Azores, Madeira, Canaries, Cape Verde, St. Paul's Rocks, Ascension, St. Helena, South Trinidad, Auckland and Campbell islands, Kerguelen, Fuegia, the Falklands, Tasmania, New Zealand and Australia. As the fruits of this expedition there appeared, between 1844 and 1860, the *Flora Antarctica*, the *Flora Novae Zelandiae* and the *Flora Tasmaniae*, that last being published in 1860, the publication of these taking so many years owing to the [illegible] 1845 shortly after this expedition Hooker became assistant to Professor Graham, then Professor of Botany in Edinburgh, and subsequently Botanist to the Geological Survey of Great Britain, while a more prolonged interruption was caused by Hooker's expedition to India. These works from the merely descriptive standpoint are of the highest excellence and importance, while the philosophical discussions they contain on the geographical distribution of plants gave an impetus to the study of this aspect of the science of botany that has only gathered strength with the lapse of time. Before starting on this voyage, Hooker had become acquainted with Darwin, then only about three years returned from his voyage on the "Beagle," and this acquaintance had developed into an intimate friendship between the two that never failed, and that had a mutual influence on the scientific thought of each.

Hooker's next expedition was made to India during 1848 to 1851. His travels in India ranged from Calcutta to the Tibetan border of the Eastern Himalaya, and from Mirzapore to the Khasia Hills and Chittagong. A general account of his Indian journeys was published in 1854 under the title of "Himalayan Journals," and forms a classic of the literature of travel. While in Sikkim, Hooker had a full share of adventure, being imprisoned, along with his friend Dr. Campbell, by the then Rajah of Sikkim. More than 50 years afterwards the present heir to the Sikkim State visited the one-time captive in his English home at Sunningdale. Despite the hardships of imprisonment and an inclement climate, Hooker

England with an immense collection. Two magnificent descriptive folio volumes with coloured plates were published, one in 1849 on the Rhododendrons of Sikkim, the other in 1855 entitled "Illustrations of Himalayan plants." It is from the period of his Indian journey that Hooker's connection with our Society dates, he being appointed an honorary member on 2nd February 1848. In 1836 Hooker's father, William Jackson Hooker, had been made a Knight of Hanover, and in 1841 had been appointed Director of the Royal Botanical Gardens, Kew. In 1855 his son Joseph was appointed Assistant-Director, and in the same year Hooker, in conjunction with Dr. Thomas Thomson of the Royal Botanic Garden, Calcutta, published the first volume of a projected *Flora Indica*. This work, however, was on too extended a scale for the pressure of official duties to allow it to be carried beyond the first volume, and the realization of a comprehensive Flora of India was reserved for a later date.

Hooker's travels did not cease with his appointment as assistant to his father, for in 1860 he visited Palestine; in 1871, in company with Ball, he explored Morocco and the Great Atlas; and in 1877 travelled in the Rocky mountains and California, each journey yielding a rich botanical harvest of collections and publications that need not be detailed here.

In 1865 Sir William Hooker died and was succeeded in the Directorship of Kew Gardens by his distinguished son, who held the post for 20 years. Hooker's tenure of the Directorship was, for part of the period, of considerable difficulty owing to imperfect appreciation of his position on the part of a high Government official, but this difficulty was surmounted. The period of Hooker's Assistant Directorship and Directorship was remarkable not merely for the development of the Garden, but for the impetus given to the study of the vegetation of the tropical and sub-tropical possessions of the British Crown, and the development of important tropical agricultural products, such as cinchona, tea, coffee, rubber and fibres.

Between 1862 and 1883 appeared the *Genera Plantarum*, written along with Bentham. This work, consisting of three large volumes, gives a systematic account in Latin of all the known orders and genera of flowering plants, and is a monument of erudition and labour. During his Directorship the immense labour of undertaking a comprehensive account of the vegetation of the Indian Empire was commenced, and up to 1885—the date of his retirement from the Directorship—four volumes were published. After his retirement continuous labour on this immense work occupied Hooker until 1897, when the seventh and last volume was issued, twelve years after his retirement from Kew. About 14,000 species of flower-

ing plants are described in this work, the value of which in the elucidation of the botany of the Indian Empire is incalculable. It introduced order into a century's accumulation of chaotic material, and laid a lasting foundation for all succeeding Indian botanists to build upon. In addition to these gigantic tasks, Hooker wrote a handbook to the Flora of the British Islands, while he produced an English version of the "Traite General" of Le Maout and Decaisne. The direction and supervision of the work involved in the preparation of the Index Kewensis, which is an index of the names, varieties and countries of all flowering plants, was, at the request of Darwin, also undertaken by Hooker, the actual preparation, however, being entrusted to Mr. B. D. Jackson. To the Annals of the Royal Botanic Garden, Calcutta, Hooker contributed in 1895 a century of drawings of the orchids from amongst the manuscript figures in the Calcutta Herbarium. The completion of the Flora of Ceylon, which had been undertaken by Trimen, also fell to Hooker. But to endeavour to refer even imperfectly to Hooker's innumerable and important botanical publications would take up too much space here. Suffice it to say that they constitute a botanical library in themselves.

Apart from his purely botanical work, Hooker played a very important part in the development of the theory of organic evolution. Hooker's services to science in this direction were emphasized at the Darwin-Wallace celebration held by the Linnean Society on the 1st of July 1908, when the President of the Society, in presenting to the then venerable old man of over ninety years a Darwin-Wallace medal, used the following words: "Your acute criticism and vast knowledge were at every point of essential service in the development and verification of the theory. Your early appreciation and unswerving support of a doctrine then often misunderstood did more than any other circumstance to ensure a fair hearing among true men of science for the theory of the Origin of Species by means of natural selection, leading ultimately to its general acceptance."

The outstanding scientific genius of Hooker was early recognized, and through his long life of 94 years, honours flowed upon him. At the age of thirty he was elected a Fellow of the Royal Society, and from 1872 to 1877 was President of that body. Three of the Royal Society's medals were bestowed on him, a Royal in 1854, the Copley in 1887, and the Darwin in 1892. The Society of Arts awarded the Albert medal in 1883, the Geographical Society their Founder's medal in 1884, the Linnean Society their Linnean medal in 1888, and a special medal to celebrate his eightieth birthday in 1897 and Darwin-Wallace medal in 1908. In 1907 he received from the Swedish Academy the solitary medal which was specially struck to commemorate the two-hundredth anniversary of the birth of Linnaeus. His academical distinctions included the honorary

degrees of D.C.L. of the University of Oxford and of LL.D. from various British Universities. He received State recognition by being made a C.B. in 1869, a K.C.S.I. in 1877, a G.C.S.I. in 1897, and by having the Order of Merit conferred on him in 1907. He also held the Prussian Order "Pour le Merite" and the Royal Swedish Order of the Polar Star, while he was a member of numerous learned societies in all parts of the globe. For his extremely long and highly honoured and honourable life, his extensive travels, his phenomenal knowledge, the number, variety and erudition of his works and his influence on the advance of biological science, the career of Sir Joseph Dalton Hooker is and must remain almost unique.

As was fitting, sepulture in Westminster Abbey was offered, but in accordance with his own wishes his remains were laid beside his distinguished father in Kew Churchyard.

The following gentlemen were balloted for as Ordinary Members:—

Moulavi Muhammad Kazim Shirazi, Persian Instructor to the Board of Examiners, proposed by Lieut.-Colonel D. C. Phillott, seconded by Mr. G. H. Tipper; *Babu Jadu Nath Mozoomdar*, Govt. Pleader, Jessore, proposed by Dr. Satis Chandra Vidyabhusana, seconded by the Hon. Justice Sir Asutosh Mukhopadhyaya; *T. Southwell*, Esq., A.R.C.S., Deputy Director of Fisheries, proposed by Dr. Annandale, seconded by Mr. G. H. Tipper.

The following papers were read:—

1. *The life and work of Bahr-ul-Ulum.—By* Moulavi M. Hidayet Husain.

This paper has been published in the *Journal* for November 1911.

2. *Oaths and Ordeals of the Gharas (Kanjars) of the Delhi District.—By* W. Kirkpatrick.

3. *Contribution to our knowledge of Indian Earwigs.—By* Malcolm Burr. *Communicated by* Dr. N. Annandale.

These papers have been published in the *Journal* for December 1911.

—◇—

The Adjourned Meeting of the Medical Section of the Society was held at the Society's rooms on Wednesday, the 17th January, 1912, at 9-30 p.m.

Lieut.-Colonel A. H. Nott, I.M.S., in the chair.

The following members were present :—

Dr. A. S. Allan, Major L. Rogers, C.I.E., I.M.S., Capt. H. B. Steen, I.M.S., Capt. J. D. Sandes, I.M.S., Honorary Secretary.

Visitors:—Surgeon Capt. F. MacCabe, Surgeon R. Parnell, R.N., Capt. A. H. Procter, I.M.S., Fleet-Surgeon E. Sutton, R.N.

The minutes of the last meeting were read and confirmed.

I. Clinical Cases.

1. Capt. Steen showed a case of great thickening of ulnar nerve in a European that he attributed to Leprosy.

2. Capt. Sandes showed for Lt.-Col. Calvert cases of Hæmaphilia, Bulber Paralysis and Pseudo-Hypertrophic muscular atrophy.

II. The following papers were read :—

1. Gleanings from the Calcutta Post Mortem Records.—No. VI. *Diseases of lungs other than tubercle.—By* Major L. Rogers, C.I.E., I.M.S.

The paper was discussed by Lieut.-Col. Nott, I.M.S., Fleet-Surgeon Sutton, R.N., and Capt. Procter, I.M.S.

2. *Some Experiences in Cholera Treatment at Palermo.—By* Major L. Rogers, C.I.E., I.M.S.

FEBRUARY, 1912.

The Annual Meeting of the Society was held on Wednesday, the 7th February, 1912, at 9-15 p.m.

COLONEL G. F. A. HARRIS, C.S.I., M.D., F.R.C.P., I.M.S., President, in the chair.

The following members were present :—

Moulvi Abdul Wali, Dr. N. Annandale, Mr. A. C. Atkinson, Mr. H. S. Bion, Dr. U. N. Brahmacārī, Lt.-Col. W. J. Buchanan, I.M.S., Bābu Monmohan Cakravartī, Bābu Nīlmani Cakravartī, Mr. J. A. Chapman, Mr. B. L. Caudhurī, Bābu Matilal Gāṅguly, Mr. F. H. Gravely, Mr. H. G. Graves, Rāi Bāhādur B. A. Gupte, Dr. E. P. Harrison, Sir Thomas Holland, K.C.I.E., Mr. D. Hooper, Rev. H. Hosten, S.J., Mr. G. R. Kaye, Mr. W. Kirkpatrick, Lt.-Col. F. P. Maynard, I.M.S., Mr. C. W. McMinn, Mr. R. D. Mehta, C.I.E., Dr. Girīndra Nāth Mukerji, Bābu Manmatha Nāth Mukerji, Hon'ble Justice Sir Āśutoṣ Mukhopādhyāya, Kt., Dr. Indu Mādhab Mullick, Bābu Purān Cānd Nahar, Mr. W. W. K. Page, Lt.-Col. D. C. Phillott, Mr. C. S. Price, Major L. Rogers, C.I.E., I.M.S., Capt. J. D. Sandes, I.M.S., Hon'ble Mr. Deva Prasād Sarbādhikārī, Capt. R. B. Seymour Sewell, I.M.S., Dr. C. Schulten, Mahāmahopādhyāya Haraprasād Śāstri, C.I.E., Dr. Satīś Candra Vidyābhuṣaṇa, Rev. A Willifer Young.

Visitors:—Mr. R. C. Burton, Bābu Hem Candra Dās Gupta, Babu Śīb Nāth Mukerji, Mr. A. A. Price, Mr. John E. Rowbotham, Babu Hemendra Nāth Sinha, Mr. C. H. B. Thompson.

The President ordered the distribution of the voting papers for the election of Officers and Members of Council for 1912, and appointed Messrs. J. A. Chapman and Nīlmani Cakravartī to be scrutineers.

The President also ordered the distribution of the voting papers for the election of Fellows of the Society and appointed Messrs. J. A. Chapman and Nīlmani Cakravartī to be scrutineers.

The President announced that twelve essays have been received in competition for the Elliott Prize for Scientific Research for the year 1911, which have been sent to the Director of Public Instruction, Bengal, one of the Trustees, for report, and that the result has not yet been received.

The Annual Report was then presented.

ANNUAL REPORT FOR 1911.

The Council of the Society has the honour to submit the following report on the state of the Society's affairs during the year ending 31st December, 1911.

Member List.

The number of Ordinary Members at the close of the year was 519. Fifty-one Ordinary Members were elected during 1911. Out of these, 5 have not yet paid their entrance fees. The number of Ordinary Members, therefore, added to the list was 46, in addition to 5 members elected in 1910 who have paid their entrance fees during the year, making a total of 51 Ordinary Members added to the last list. On the other hand, 28 withdrew, 10 died, and 2 were struck off under Rule 40.

The following table gives the statements for the past six years:—

YEAR.	PAYING.				NON-PAYING.				TOTAL.
	Resident.	Non-Resident.	Foreign.	Total.	Life.	Absent.	Special Non-Subscribing.	Total.	
1906 ..	173	147	15	335	20	51	1	72	407
1907 ..	174	175	20	369	20	30	1	51	420
1908 ..	181	193	17	391	19	38	..	57	448
1909 ..	183	217	13	413	20	40	..	60	473
1910 ..	209	217	16	442	23	43	..	66	508
1911 ..	200	225	19	444	22	53	..	75	519

The Ordinary Members whose deaths we lament were Mr. C. H. Browning, Mr. J. A. Cunningham, Mr. Harināth De, Major C. J. Robertson Milne, I.M.S., Maulavi Muḥammad Naem'ullah, Major B. C. Oldham, I.M.S., Bābu Ambicā Caraṇ Sen and Rev. L. O. Skrefsrud; and Sayid 'Ali Bilgrami, and Sir Wala Qadir Sayid Hussan 'Ali Mirzā, G.C.I.E. (life members).

We have to lament the deaths of four Honorary Fellows, viz., Sir Joseph Dalton Hooker, Mr. W. Irvine, Prof. P. Regnaud, and Ācārya Satyavrata Sāmaśramī.

Lieut.-Col. A. W. Alcock, F.R.S., Prof. E. G. Browne, M.A., Dr. A. Engler, Sir Clements Markham, K.C.B., and Mahāmahopādhyāya Kāmākhyā Nāth Tarkavāgīśa were elected Honorary Fellows. The number is now 28.

Among the Special Honorary Centenary Members, there has been one death, viz., Mr. C. Meldrum. The number is now 3.

The number of the Associate Members remains unchanged.

One member, Maulavi 'Abdu'l Wālī, compounded for his subscriptions during the year.

Indian Museum.

No presentations were made over to the Indian Museum.

During the year there has been no change in the Society's Trusteeship and the Hon. Justice Sir Āśutoṣ Mukhopādhyāya, Kt., C.S.I., D.Sc., F.R.A.S., F.R.S.E., continues to be a member of the Board of the Trustees of the Indian Museum on behalf of the Society under the Indian Museum Act X of 1910.

The Sub-Divisional Officer of Balurghat offered the Society a stone image representing the god Śiva for the Indian Museum, and as there was some difficulty in the transmission he was asked to communicate with the Superintendent of the Indian Museum, Archaeological Section, to make the necessary arrangements.

Deputations.

Mr. G. H. Tipper, the General Secretary, represented the Society at a Conference of Orientalists held at Simla in July, 1911.

On an invitation from the Government of India, Department of Education, the Society nominated Dr. N. Annandale, B.A., D.Sc, F.A.S.B., Superintendent of Indian Museum, as a representative of the Society at the Museums' Conference held in January 1912. There was no delegate appointed by the Trustees of the Indian Museum to attend the Conference.

Finance.

The accounts of the Society are shown in the Appendix under the usual heads. Statement No. 12 contains the Balance Sheet of the Society and of the different funds administered through it.

The credit balance of the Society at the close of the year was Rs. 2,32,014-1-4, against Rs. 1,82,930-2-8 at the close of the preceding year, which shows an increase in the financial position by about forty-nine thousand one hundred rupees. This is due to the special Imperial grant of Rs. 40,000 from the Government of India towards the expenses of constructing the

Society's building. The actual increase in the finance of the Society is Rs. 9,100.

The Budget for 1911 was estimated at the following figures: Receipts Rs. 72,607 (Ordinary Receipts Rs. 31,207, and Extraordinary Receipts Rs. 41,400); Expenditure Rs. 28,358. The Budget estimate of receipts excludes Admission fees and Compounded subscriptions.

The actual receipts for the year, exclusive of Admission fees and of Compounded subscriptions, have amounted to Rs. 73,259-15-5. In addition to this, the sum of Rs. 1,504 has been received as Admission fees, and the sum of Rs. 140 as Compounded subscriptions or about Rs. 2,300 in excess of the estimate. The total receipts for the year have been Rs. 74,903-15-5. The receipts have exceeded the estimate under the heads of "Members' Subscriptions," "Sale of Publications" and "Miscellaneous," the excess amounts received being, respectively, Rs. 1,507, Rs. 40 and Rs. 98. The receipts have fallen short of the estimate under the following heads: "Subscriptions for the Society's *Journal and Proceedings* and *Memoirs*," as some bills are still outstanding against subscribers; "Interest on Investments," owing to non-realization of interest during the year; "Rent of Room" on account of non-receipt of rent for December 1911 from the Automobile Association of Bengal, and "Loan" shows a decrease owing to the realization of Rs. 2,000 from the Arabic and Persian Manuscripts Fund, under the direction of the Council, dated 26th April 1911, instead of Rs. 2,710 as mentioned in our last year's report. The sum of Rs. 1,504 has been received as Admission fees, the sum of Rs. 140 as Compounded subscriptions, and the sum of Rs. 1,550 has been credited to the Permanent Reserve Fund. The sum of Rs. 40,000, received as a Grant (Special Imperial Contribution) for building purposes, has been credited to the Temporary Reserve Fund.

In the Budget, the Ordinary Expenditure was estimated at Rs. 28,358, the expenditure to be incurred under eighteen heads. The actual amount paid out amounted to Rs. 26,892-0-7, or Rs. 1,466-0-7 less than the estimate. The expenditure exceeded the estimate under the heads of "Commission," owing to the collection of subscriptions in arrears, as well as to the increase in the number of new members; "Sationery" and "Printing" have risen owing to the increased activity of the Medical section; "Lights and Fans" have been higher for changing the coils of one of the fans and for repairing them; "Postage" has increased on account of the despatch of publications of 1910 issued in 1911; "Contingencies" are higher on account of the cost of a second marble tablet for the tomb of Alexander Csoma de Körös, summer and winter clothing for menials, planks to cover Tibetan block prints, and the cost of decorating and lighting the Society's premises on the night of the

Annual Meeting of 1911; "Binding" has increased owing to several medical periodicals being bound; "Books" are higher owing to the purchase of medical works for the use of the Medical section. The expenditure on account of the *Journal and Proceedings* and *Memoirs* shows a decrease owing to the publications having fallen in arrear, and a few bills outstanding at the close of 1911.

During the year the Council sanctioned the grant of a bonus in honour of Their Imperial Majesties' visit to India. This was granted to the Society's servants whose pay did not exceed fifty rupees per mensem. The sum of Rs. 532-2-9 was paid for accrued interest on Rs. 40,000 Government Promissory Notes purchased during the year.

Out of Rs. 4,710 advanced as a loan in 1910 to the Arabic and Persian MSS. Fund, Rs. 2,000 has already been realized, and the remainder will be realized by two instalments as detailed below:—

In the year 1912	..	.. Rs. 1,500
Do. 1913	..	.. ,, 1,210

The following sums were held at the close of the year on account of the different funds administered by the Society:—

	Rs.	A.	P.
Oriental Publication Fund No. 1 ..	2,488	13	7
Do. do. ,, No. 2 ..	6,699	6	0
Do. do. ,, No 3 ..	1,198	9	6
Sanskrit Manuscripts Fund ..	1,195	13	11
Arabic and Persian MSS. Fund .	634	14	4
Bardic Chronicles MSS. Fund ..	1,153	15	6
Total ..	13,371	8	10

Less the amount of—

Rs. 432 advanced to the Editor O.P. Fund No. 1.

Rs. 2,710 advanced to the Officer-in-Charge Arabic and Persian MSS. Fund.

Rs. 500 advanced to Mahāmāhopādhyāya Haraprasād Śāstrī on account of Bardic Chronicles Fund.

Total, Rs. 3,642

	3,642	0	0
Total ..	9,729	8	10

The liquid assets of the Society at the close of the year, excluding Permanent Reserve Fund and deducting Rs. 9,729-8-10 belonging to the funds administered by the Society, amounted to Rs. 69,770-8-3. The bulk of this sum is invested in Government Promissory Notes as a Temporary Reserve Fund.

The Budget estimate of Receipts and Expenditure for 1912 has been fixed as follows :—

	Rs.
Receipts	32,300
Expenditure	27,588

The Budget estimate of Receipts is about Rs. 42,604 less than the Actual of 1911. This is chiefly due to the grant of Rs. 40,000 received from the Government of India towards the expenses of constructing the Society's building, and the interest accumulated thereon.

The Budget estimate of Expenditure is about Rs. 700 more than the Actual of 1911, the items "Municipal Taxes," "Contingencies," "Journal and Proceedings and Memoirs" and "Printing" have all been raised. "Municipal Taxes" have been increased owing to new assessment. "Contingencies" are higher on account of additional expenses incurred for illuminating the Society's premises in honour of Their Imperial Majesties' visit in Calcutta. "Journal and Proceedings" and "Memoirs" show an increase owing to an expenditure of Rs. 600 granted to Revd. H. Hosten towards obtaining photographic facsimiles of historical documents relating to the Mogul Empire, Tibet, Bengal and Pegu, sanctioned by the Council in November 1911; and "Printing" is higher owing to the expenditure for medical reprints. The other items are based upon the actuals of the last year.

It should be possible to meet the excess of any extraordinary expenditure over receipts out of the cash balance, and not have recourse to a sale of securities as was the case in 1910.

The expenditure on the Royal Society's Catalogue (including subscription remitted to the Central Bureau (London) has been Rs. 5,023-11-7, while the Receipts under this head from subscriptions received on behalf of the Central Bureau (including a grant of Rs. 1,000 from the Government of India) have been Rs. 6,124-9-7. A sum of Rs. 4,430-13-3 has been remitted to the Central Bureau, London, and the amount of Rs. 2,229-15-11 is still to be forwarded.

Mr. D. Hooper, F.C.S., continued Honorary Treasurer throughout the year.

BUDGET ESTIMATE FOR 1912.

Receipts.

	1911. Estimate.	1911. Actuals.	1912. Estimate.
	Rs.	Rs.	Rs.
Members' Subscriptions ..	10,500	12,007	11,500
Subscriptions for the Society's "Journal and Proceedings" and "Memoirs" ..	1,704	1,560	1,608
Sale of Publications ..	2,000	2,041	2,000
Interest on Investments ..	6,993	6,923	8,392
Rent of Room	600	550	600
Government Allowances ..	3,000	3,000	3,000
Do. (for Researches in History, Religion, Ethnology and Folk-lore of Bengal)	3,600	3,600	3,600
Miscellaneous	100	198	100
Loans	2,710	2,000	1,500
Admission Fees	..	1,504	..
Compounded Subscriptions ..	..	140	..
Total ..	31,207	33,523	..

Extraordinary Receipts.

Grants (Special Imperial Contribution)	40,000	40,000	..
Interest on Investment ..	1,400	1,381	..
Grand Total ..	72,607	74,904	32,300

Expenditures.

Salaries	6,550	6,427	6,550
Commission	600	663	600
Pension	420	420	420
Stationery	150	207	150
Light and Fans	260	269	260
Municipal Taxes	1,465	1,465	1,495
Postages	600	893	675
Freight	300	184	225
Contingencies	600	1,094	700

	1911. Estimate. Rs.	1911. Actuals. Rs.	1912. Estimate. Rs.
Books	1,200	1,879	1,200
Binding	1,000	1,075	1,000
"Journal and Proceedings" and "Memoirs" ..	10,000	6,319	10,600
Printing (Circulars, etc.) ..	250	630	350
Auditor's fee	100	100	100
Petty Repairs	75	52	75
Insurance	188	188	188
Library Catalogue ..	1,000	780	..
Salary-(for Researches in History, Religion, Ethnology and Folk-lore of Bengal) ..	3,600	3,600	3,600
Interest on G. P. Account ..	..	532	..
Bonus	..	115	..
Total ..	28,358	26,892	27,588

Agencies.

Mr. Bernard Quaritch and Mr. Otto Harrossowitz continued as the Society's Agents in Europe.

The number of the copies of the *Journal and Proceedings* and the *Memoirs* sent to Mr. Quaritch during the year 1911 was 338, valued at £72-15, and of the *Bibliotheca Indica* 223, valued at Rs. 226-4. Of these, copies of the value of £48-13-10 and Rs. 284 have been sold.

The number of the copies of the *Journal and Proceedings* and the *Memoirs* sent to Mr. Harrossowitz during 1911 was 165, valued at £25-14; and of the *Bibliotheca Indica* 202, valued at Rs. 226-4. The sale-proceeds have been £33-12-5 and Rs. 358-15-10, respectively.

Library.

The total number of volumes and parts of magazines added to the Library during the year was 2,387, of which 1,216 were purchased and 1,171 were either presented or received in exchange.

The Council discontinued the arrangement whereby books and manuscripts in the Library of the Society were lent to the Imperial Library, and they were asked to return the books out with them.

It has been decided to subscribe for a copy of the "Journal of the Washington Academy of Sciences," and the Council has procured a copy of the Manuscript of the "Caraka Saṁhitā" from the Nepāl Durbar Library for the Society.

On an application from the Rev. H. Hosten, S.J., the Council sanctioned an expenditure of Rs. 600 towards obtaining photographic facsimiles of historical document, referring to the Mogul Empire, Tibet, Bengal and Pegu (Burma). After the publication of these photographs, they will be deposited in the Library of the Society.

On the recommendations of Major L. Rogers, certain duplicate volumes of the "British Medical Journal" were presented to the Medical College, Lucknow.

The Lama engaged for cataloguing and looking after the Tibetan collection may be employed by any member, for extra remuneration, for copying, etc., in consultation with the Secretary of the Society.

It has been resolved that the Tibetan books and manuscripts shall not be lent out of the Society's rooms.

Mr. J. H. Elliott has continued as Assistant Secretary throughout the year.

There has been no change in the office establishment.

International Catalogue of Scientific Literature.

The Regional Bureau for India and Ceylon prepared 2399 Index slips in the year under review and sent them to the Central Bureau. Its upkeep cost Rs. 592-14-4.

A sum of £297-6-4 was sent to London at a cost Rs. 4,430-13-3, being the subscriptions collected for remission.

The Regional Bureau during this year distributed 135 volumes.

The following gentlemen helped the Bureau by checking the index slips prepared chiefly by the clerk of the Regional Bureau :—

Dr. N. Annandale.
Mr. I. H. Burkill
Dr. W. A. K Christie.
Mr. G. de P. Cotter.
Prof. E. P. Harrison.
Mr. D. Hooper.
Capt. J. W. D. Megaw.
Dr. G. E. Pilgrim.
Mr. G. H. Tipper.
Mr. E. Vredenburg.
Mr. F. H. Gravely.

The following is a list of scientific periodicals published in India and Ceylon which the Regional Bureau will always fully index in the first place. Authors publishing in them may rest assured that the titles of their papers will be forwarded without delay to the Central Bureau. Authors publishing elsewhere are asked to submit reprints in order to call attention to their work :—

Societies.

1. Journal of the Asiatic Society of Bengal.
2. Memoirs of the Asiatic Society of Bengal.
3. Journal of the Bombay Natural History Society.

Official, Meteorology.

4. Annual Summary of the Indian Weather Review.
5. Indian Meteorological Memoirs, Calcutta.

Official, Chemistry.

6. Memoirs of the Department of Agriculture in India, Chemical Series.

Official, Botany.

7. Records of the Botanical Survey of India.
8. Annals of the Royal Botanical Gardens, Calcutta.
9. Annals of the Royal Botanic Gardens, Peradeniya.
10. Memoirs of the Department of Agriculture in India, Botanical Series.

Official, Zoology, Animal Physiology and Bacteriology.

11. Records of the Indian Museum.
12. Memoirs of the Indian Museum.
13. Indian Civil Veterinary Department Memoirs.
14. Memoirs of the Department of Agriculture in India, Entomological Series.
15. Indian Medical Gazette.
16. Journal of Tropical Veterinary Science.
17. Paludism.

Official, Geology.

18. Memoirs of the Geological Survey of India.
19. Records, Geological Survey of India.
20. Palaeontologia Indica, Geological Survey of India.

Official, Mixed.

21. Scientific Memoirs by the Medical Officers of the Army of India, Calcutta.
22. Spolia Zeylanica, Colombo.
23. The Indian Forest Records.

On a reference from the Central Bureau, London, regarding the preparation of annual Physical-Chemical Tables, the Council agreed to co-operate with the proposed international Commission.

Fellows of the Society.

An amendment to Regulation 6 (i.e. for the words *two-thirds* in Rule 6 substitute *a Majority*) governing the nomination and election among the Ordinary Members was reported to the Ordinary General Meeting in March, 1911, under Rule 48(*a*).

At the Annual Meeting held on 1st February, 1911, Mr. E. A. Gait, C.I.E., I.C.S., and Mr. H. H. Hayden, B.A., B.E., F.G.S., were elected Fellows of the Society.

Elliott Prize for Scientific Research

No Prize having been awarded during the last three years, owing to the lack of competition, the Trustees specially sanctioned the award of four Prizes for the year 1911, for essays showing original work or investigation by the essayist, in Physical, Chemical, Mathematical and Natural Sciences.

Special effort was made to advertise the Elliott Prize for Scientific Research and a Notification was printed and sent to the Principal of every College in Bengal and to the Principals of the Colleges in the District of Dāccā, Mymensingh, Bāckergañj, Rājshāhī, Pābnā, Chittāgong and Tipperā, for the purpose of posting it on the Notice Boards. This Notification was printed in the *Calcutta Gazette* of the 15th, 22nd and 29th March, 1911. Twelve essays have been received in competition; these have been referred to the Trustees for report.

Barclay Memorial Medal.

On the recommendation of the "Barclay Memorial Medal" Special Committee, the Council awarded the Medal for 1911 to Dr. Karl Diener, Professor of Palæontology at the University of Vienna, in recognition of his palæontological researches.

Society's Premises and Property.

The proposal made by the Principal, Government School of Art, for an improved system of protection and preservation of the valuable paintings belonging to the Society, announced in the last Annual Report, was not accepted.

On a Notice from the Calcutta Municipal Corporation, raising the assessment of the Society's premises from Rs. 7,513 to Rs. 12,268 annually, Mr. W. W. K. Page, Solicitor of Messrs. Pugh & Co., and the General Secretary attended the hearing of the objections lodged by the Society. The assessed annual value has been reduced from Rs. 12,268 to Rs. 7,667, an increase on the valuation of 1905 of Rs. 154 only.

The question of building new premises for the Society on its own ground has been finally sanctioned and the Secretary has been empowered to carry out the recommendations of the Sub-Committee. It is hoped that these details will be worked out shortly.

Exchange of Publications.

During 1911, the Council accepted two applications for exchange of publications, viz.—(1) From the Sarawak Museum: the Society's *Journal and Proceedings* and *Memoirs* in ex-

change for their *Journal.* (2) From the Kgl. Museum für Volkerkunde, Berlin, the Society's *Journal and Proceedings* and *Memoirs* for the publications of the Museum.

An exchange of publication with the Editor of the "Anthropos" has been discontinued and the periodical is now subscribed for.

On an application from the Officiating Director-General of Archaeology in India, the Archaeological Section of the Indian Museum was added to the free distribution lists, receiving the *Journal and Proceedings* and the *Memoirs* and the *Bibliotheca Indica* publications.

Publications.

There were published during the year nine numbers of the *Journal and Proceedings* (Vol. VI, Nos. 11 and 12; and Vol. VII, Nos. 1-7), containing 866 pages and 17 plates.

Of *Memoirs* only one number was published (Vol. III, No 4), containing 30 pages and 9 plates.

Numismatic Supplement No. 15 has been published in the *Journal and Proceedings*, Vol. VI, No. 11, under the editorship of the Hon. Mr. H. Nelson Wright. It has been decided to print a certain number of extra copies of each of the Numismatic Supplement from No. XVI for sale.

Mr. G. H. Tipper continued as General Secretary and Editor of the *Proceedings* throughout the year. Dr. E. D. Ross left Calcutta for Simla in June, and Lieut.-Colonel D. C. Phillott was appointed to carry on the work of the Philological Secretary and Editor of the Philological section of the *Journal* during his absence. Dr. Ross returned in December and took charge of his office. Mr. I. H. Burkill carried on the duties of the Natural History Secretary throughout the year, except for the last two months when Dr. W. A. K. Christie officiated for him. Dr. N. Annandale was Anthropological Secretary and Editor of the Anthropological section of the *Journal*, and Dr. Satīś Candra Vidyābhūṣaṇa carried on the duties of the Joint Philological Secretary, and was in charge of the *Bibliotheca Indica*; while Mahāmahopādhyāya Haraprasād Śāstrī continued as Officer-in-Charge of the Search for Bardic Chronicles and the work of collecting Sanskrit Manuscripts throughout the year. Dr. Ross was also in charge of the Search for Arabic and Persian Manuscripts, and during his absence from Calcutta Mr. Tipper carried on the current duties of the Search. Early in March, Major L. Rogers, I.M.S., resigned his office of Medical Secretary, and Major J. W. D. Megaw, I.M.S., was appointed in his place. Major Megaw continued till the first week of December when he left India, and Captain J. D. Sandes, I.M.S., was appointed. The Coin Cabinet was in charge of the Hon. Mr. H. N. Wright, who has reported on all Treasure Trove Coins sent to the Society.

Lectures.

During the year, the following two lectures were delivered in the Society's rooms :—1. On Japanese Painting and Sculpture, with lantern slides, by Mr. O. C. Gāṅguly, on the 5th April. 2. On A Visit to the Mekran. The Mud-Volcanoes and the Pilgrimage to Hinglaj, by Mr. E. Vredenburg, B.L., B.Sc., A.R.S.M., A.R.C.S., F.G.S., on 18th May, 1911.

Philology, etc.

During the year under review a number of useful and important articles of historical and philological interest were contributed to the *Journal and Proceedings* of the Society :—

Mr. H. Beveridge's article on "A dubious passage in the Ilminsky's edition of the Bāburnāmāh" was published in the *Journal* for January, 1911. It opens thus : "In an interesting passage of his Memoirs the Emperor Bābur gives some particulars about the birth of his third son Hindāl Mirzā." The passage in question occurs on page 220*a* of the facsimile of the Haidarabad Code X and on page 250 of Leyden and Erskine's translation. In his note Mr. Beveridge says : "It is assumed that Jahāngīr wrote the paragraph, but one would expect him to have been better informed about the date of death of his great-grandfather's mother."

The same writer, in a note on "the Poet Mailī of Herat" (published in the *Journal* for December 1910), points out that the life of this poet is but little known, and that there are several mistakes and discrepancies in the accounts of him which occur in various Persian anthologies and in catalogues of Persian MSS.

Maulavi 'Abdu'l Wālā published 228 Quatrains of Shaykh Abu Sa'īd ibn Abu'l Khayr in the *Journal* for 1909. He has contributed another monograph containing 173 Quatrains of the Shaykh copied from British Museum Codex, which have been examined, collated and alphabetically arranged by the Editor, excluding those tetrastiches that were common in both the texts. In a brief but critical note prefixed to the Quatrains the Maulavi has discussed the variants, imitations and similitudes of a good number of *stanzas* written before and after Abu Sa'īd. The edition of the Quatrains is in the course of publication in the *Journal* for 1911.

Bābu Rākhāl Dās Banerjī, M.A., in his useful contribution entitled "Inscribed Guns from Assam" (published in the *Journal* for February 1911), deals at length with seven inscribed guns, of which four are, at present, in Assam, two in the house of a zemindar in Bhāgalpūr, and one in the Industrial Section of the Indian Museum. These are as follows : (1) *Gun of Shīr Shāh*, made of iron and bearing an

inscription, is said to be *Nāwwāra top*, a sort of naval gun employed in the flotilla of boats; (2) *Inscribed Field Piece* is of iron, bearing an inscription four or five lines in very bad Shikastah hand, which has been left undeciphered; (3) *Inscribed Field Piece of Raghudeva of Cooch Behar;* (4) *Inscribed Field Piece of Raghudeva;* (5) *Inscribed Gun of Jayadhvajasiṁha* found at Bhagalpur, bearing three separate inscriptions, one in Sanskrit and the rest two in Persian; (6) *A Field Piece*, bearing four Persian letters without any diacritical marks; (7) *The Brass Gun of Gadādharasiṁha* was transferred by the Asiatic Society of Bengal in 1867 to the Industrial Section of the Indian Museum, bearing two inscriptions on its barrel, one in Sanskrit and the other in Persian.

The same writer contributes a paper on "the Evidence of the Faridpore grants," in which he offers some critical notes on four copper-plate inscriptions which are pronounced to be forged, and which yet throw much light on the dark period of the history of Bengal.

A most interesting and scholarly article was contributed to the *Journal* for April 1911 by Rev. H. Hosten, S.J., under the title of "Father A. Monserrate's Description of Delhi (1581); Firoz Shāh's Tunnels." According to the writer "the chief point of interest in Monserrate's account is, evidently, his allusion to the tunnel constructed by Firoz. He betrays no hesitation in the matter, but took the trouble of working out in stadia the length of the tunnel. It was about $4\frac{3}{4}$ miles long, the stadium being 606 feet 9 inches English. As for the direction of the tunnel, Monserrate's text and the maps of the neighbourhood of Delhi clearly point to its having run from Firoz Shah's Kotila to Rāi Pithora." The next European reference to the tunnel is dated 30 years later; W. Finch, who was in Delhi in 1611, proceeds thus: "From the Monument is said to be a way underground to Dely Castle." By "Dely Castle" he certainly means Old Delhi. It will be observed that the earliest native record relating to these tunnels is in the Āīn-i-Akbarī only.

The same writer, in a paper on "Frey Joaoda Cruz, O.S.A. (+1638)," describes the life of the Portuguese Friar, who was wounded by the Moors during the siege of Hugli (Ugolim) in A.D. 1632, and was taken as a prisoner at Agra.

Revs. L. Besse, S.J., and H. Hosten, S.J., have thrown a good deal of light on the histories of Bengal and Burma by compiling a descriptive list of Portuguese Jesuit Missionaries in Bengal and Burma from A.D. 1576 to 1742.

In the *Journal*, for April, 1911, Lieut.-Col. D. C. Phillott, F.A.S.B., Secretary, Board of Examiners, in a very useful article on "Some Notes on Urdu Grammar," has dealt briefly with some points of Urdu grammar, which appear to have escaped the notice of grammarians.

In the *Journal* for May 1911, Mr. H. A. Rose, C.S., edited the Dictionary of the Pāhārī Dialect as spoken in the Puñjāb Himālayās, by Pandit Tikā Rām Yośī, author of a grammar and dictionary of Kanāwarī.

The same writer communicated to the *Journal* for July 1911 a very interesting article styled "Persian Letters from Jahān Ārā, daughter of Shāhjahān, King of Delhi, to Rājā Budh Parkāś of Sirmūr"; these six Persian letters bear impressions of the seal of Jahān Ārā Begum.

In the *Journal* for June 1911, Mr. Kirkpatrick's very useful contribution entitled "A Vocabulary of the Pāsī Boli or Argot of the Kunchandiya Kanjars" was published. He gives a brief account of the tribe saying, "The Kunchandiya Kanjars are, at the present day, a non-criminal section of the vagrant tribes of a Gipsy character known all over India by the generic name of Kanjar."

The Hon'ble Dr. A. al-Mamun Suhrawardī, Bar.-at-Law, in his learned contribution entitled "The *Waqf* of Moveables," published in June 1911, has attempted to deal with the validity of the *Waqf* of moveables.

In his "Notes on the History of the District of Hughli, or the ancient Rāḍa," published in the *Journal* for December 1910, Bābu Nandalāl De has attempted to trace back the old accounts relating to the district of Hughli. He gives an account of the town itself from A.D. 1537, the time of the Portuguese Settlement there, up to A.D. 1640, when the English built a factory at the place.

In the extra number of the *Journal* for December 1910, Mr. E. Joseph, I.C.S., made a valuable contribution to the Jāṭū language spoken by the Rohtak Jats. "It is in reality," the writer adds, "a dialect of Western Hindi modified on the one hand by the disturbing influence of Pañjābī in the north, and on the other by the Ahirwati dialect of Gurgaon in the south, which is classed in Dr. Grierson's Linguistic Survey as a form of the Mewāṭī dialect of Rājasthān." The writer first deals with the grammar of the language, then he gives a very useful Jaṭu-English glossary, and subsequently the English-Jaṭu. The paper will be of much use to the students of the Jaṭu language.

Messrs. R. W. Whitehead and George P. Taylor have very useful and valuable contributions to the Numismatic Supplement, No. XV, in the *Journal* for December 1910. The former has notes on some Mughal coins, on *Dāms* of Akbār struck at Jaunpur and Ajmir mints, and on some rare Pathan coins: while the latter, on some copper coins of the 'Ādil Shah's Dynasty of Bijāpūr, on the Bijāpūr *Lari* or *Larin*, on the Bijāpūr Mughal Rupee of A.H. 1091, and on the half-Muhar No. 172 of the British Museum Catalogue.

The article on Mundārī phonology by Professor Sten

Konow is a rejoinder to Rev. C. Mehl's unfavourable review of the Mundārī Section of the Linguistic Survey of India.

Mr. H. E. Stapleton has made a valuable contribution to the History of Assam, based on a large number of coins discovered from the Jorhāt subdivision.

Mr. Kāśī P. Jayaśvāl contributes some critical notes on Dr. Takakasu's English translation of obscure passages in I-tsing's Chinese Records.

Mahāmahopādhyāya Haraprasād Śāstrī, C.I.E., in his Notes on Catuḥśatikā, gives an account of a newly-found Budhist Sanskrit work called Catuḥśatikā, by Āryadeva.

Rāi Bāhādur B. A. Gupte, in his article on Mṛga-Śīrṣa, relates the story of *Shivarātra*, and identifies Śiva Pañcāyatana with certain signs of the Zodiac.

Bābu B. C. Mazumdār identifies the goddess *Stambheśvarī*, whose name is to be found in the copper-plate inscription of Kulastambhadeva, with a goddess still worshipped by some aboriginal tribes.

Natural History, etc.

During the year, Dr. P. C. Rāy has continued, himself and also through his students, the investigation of the Amine nitrites. Mr. D. Hooper also carried on his chemical investigation of Indian Foods, which includes an important paper on "Phosphorus in Indian Food stuffs" undertaken in connection with the Beri-beri commission. In Botany, several systematic papers have been contributed by Messrs. Burkill, Smith, Bhide and Prof. West. In the press and shortly to be issued is another part of the "Materials for a Flora of the Malayan Peninsula" by J. S. Gamble, a work of the very highest value. Several exhibitions were made during the year of zoological objects by officers of the Natural History Section of the Indian Museum.

Twelve scientific papers were issued, all in the *Journal*, in the year under review—six Chemical, five Botanical and one Palæontological.

Chemistry.

Reactions in presence of Nickel: (a) *Inability of nitrogen and hydrogen to combine in presence of iron and nickel.* (b) *Reduction of the oxides of nitrogen, sulphur and phosphorus in presence of nickel.—By* Pañcānan Neogi, M.A., *and* Birendra Bhūṣan Adhicārī, M.A.

Interaction of Hydrazine Sulphate with Nitrites, and a new method for the determination of the "Nitritic" Nitrogen —By Bimān Bihārī De, M.Sc., *and* Hemendra Kumār Sen, B.A.

Methylamine Nitrite (Methylammonium Nitrite).—By PRAPHULLA CANDRA RĀY *and* JITENDRA NĀTH RAKṢIT.

Phosphorus in Indian Food Stuffs.—By D. HOOPER.

The Composition of Indian Yams.—By D. HOOPER

Some Asiatic Milk-Products.—By D. HOOPER.

BOTANY.

Plantarum Novarum in herbario Horti Regii Calcuttensis cognitarum Decas.—By W. W. SMITH.

A new Gentian and two new Swertias from the East Himalaya.—By W. W. SMITH.

Swertiae chinenses quatuor novae ex herbario G. Bonati.—By I. H. BURKILL.

Descriptions of three new species of Algae associated with Indian Freshwater Polyzoa.—By PROF. WM. WEST, *with notes by* N. ANNANDALE, D.Sc.

Note on Sterculia alata *Roxb. var.* irregularis—*a remarkable instance of leaf variation.—By* W. W. SMITH.

PALÆONTOLOGY.

On the occurrence of Maestrichtien fossils at Kacch station in British Baluchistan.—By HEM CANDRA DĀS-GUPTA.

The following specimens were exhibited at monthly general meetings, and are referred to in the Proceedings.

A snake of the genus *Būngarus*. N. Annandale.

Two sponges, *Racodiscula sceptrellifera*, Carter, and *Spongosorites topsenti*, Dendy. N. Annandale.

New species of Stomatopod crustacea. S. W. Kemp.

Myrmeleonid and ascalaphid larvae. F. H. Gravely.

A collection of drugs from the bazaar of Naxalbarai, Darjeeling terai. I. H. Burkill.

Paecilocoris latus by Dr. G. D. Hope.

Anthropology.

The number of papers on anthropological subjects published by the Society during the year has been small and it cannot be denied that comparatively little interest is taken by members in such subjects. This, however, is inevitable so long as there is no recognized authority in India to whom persons interested in the study of man can turn for advice, confident that they are receiving true expert advice. The most prominent feature of the work in progress is the series of papers

now being published by Mr. W. Kirkpatrick in the Society's Journal, on the folklore and customs of the Gehārā Kanjars of the Punjab and the United Provinces.

Medical Section.

Regular monthly meetings have been held throughout the session, and have been moderately well attended. Important discussions have taken place on cirrihosis of the liver, the use of salvarsan in the treatment of Kala Azar, the Burdwan Epidemic Fever of forty years ago. Interesting papers have also been read on black mycetoma, the seasonal prevalence of anopheles mosquitoes, hypnotism, the treatment of hydrocele, etc. Numerous interesting clinical cases have also been regularly shown. Important additions have been made to the medical library out of the special fund allotted by the Council for that purpose, and the journals have been kept up. The system of circulating to all the members references to the more important papers appearing in the medical journals received by the Society has been continued and has enabled medical workers residing at a distance to follow the current literature. On Major L. Rogers going on leave early in March, Major J. W. D. Megaw was appointed Medical Secretary, a post which he ably filled until he went on leave himself early in December, when he was succeeded by Captain J. D. Sandes, I.M.S. The Medical Section has been honoured by the election of Colonel Harris to the Presidentship of the Society at the Annual Meeting.

Bibliotheca Indica.

Of the 40 fasciculi of texts of different dimensions published in the *Bibliotheca Indica* series during the year under review, 24 belong to Brāhmanic Sanskrit, 1 to Jaina Sanskrit, 1 to Jaina Prakṛt, 2 to Buddhist Sanskrit, 4 to Sanskrit and Tibetan, 1 to Hindi and the remaining 7 to Arabic and Persian literature. These fasciculi include Mr. Beveridge's translation of Maaṣiru'l-Umarā (fasc. I, II), Major Stephenson's translation of Hadīqatu'l-Ḥaqīqat, Mahāmahopādhyāya Dr. Gaṅgā Nāth Jhāṁ's translation of Tantravārtika (fasc. IX, X), and Paṇdit Hita Vrata Sāmakaṇtha's revised edition of Nirukta (fasc. I).

Of the new works sanctioned last year, 10 fasciculi have been published this year, viz.:—

1. *Amarakoṣaḥ*, a dictionary of Sanskrit-Tibetan words, edited by Mahāmahopādhyāya Dr. Satīś Candra Vidyābhūṣaṇa. It contains the Sanskrit text of Amara Siṁha and an old Tibetan version which was prepared by the Indian Paṇḍita Kīrti-Candra and the Tibetan sage Grags-pa-rgyal-mtshan.

2. *Ravisiddhānta-mañjarī*, a Sanskrit treatise on Astronomy dated about 1530 Śaka, edited by Paṇḍita Biśvambhara Jyotisārṇava.
3. *Tattvacintāmaṇi-dīdhiti-vivṛti*, a Sanskrit work on Modern Logic, edited by Mahāmahopādhyāya Kāmākhyā Nāth Tarkavāgīśa. It embodies the Tattvacintāmaṇi—text of Gaṅgeśa, Dīdhiti—commentary of Śiromaṇi and the vivṛti—gloss of Gadādhara.
4. *Anumāna-dīdhiti-prasāriṇī*, a Sanskrit work on Modern Logic, edited by Paṇḍita Prasanna Kumār Tarkanidhi. It embodies the Tattvacintāmani—text of Gaṅgeśa, Dīdhiti—commentary of Śiromaṇi and the Prasāriṇī—gloss of Kṛṣṇā Dās Sārvabhauma.
5. *Kiraṇāvali*, a Sanskrit work on Vaiśeṣika philosophy, edited by Mahāmahopādhyāya Śiva Candra Sārvabhauma. It embodies the text of Udayana and the commemtary of Vardhamāna.
6. *Nyāya-vārtika tātparya-pariśuddhi*, a Sanskrit work on Ancient Logic, edited by Paṇḍita Vindhyeśvarī Prasād Dvivedin and Paṇḍita Lakṣmaṇa Śastri Drāviḍa. It embodies the commentary of Udayana and the gloss of Vardhamāna.
7. *Mugdhabodha-Vyākaraṇa*, a Sanskrit work on Grammar, edited by Paṇḍit Śiva Nārāyaṇa Śiromaṇi and Paṇḍit Ajit Nāth Nyāyaratna It embodies the text of Vopadeva and the commentary of Kāma Tarkavāgīśa.
8. *Farās-Nāmā*, edited in the original Persian with English notes by Lieut.-Colonel D. C. Phillott. It contains an introduction by Dr. N Annandale.
9. *Maaṣiru'l-Umarā*, translated by Mr. H. Beveridge. It contains the biographies of the Muhammadan and Hindu officers of the Timurid Sovereigns of India from A.D. 1500 to 1780.
10. *Hadīqatu'l-Haqīqat*, a philosophical work, edited and translated by Major J. Stephenson. The original Persian text was composed by Ḥakim Abu'l-Majd Majdud Sanāi of Ghazna about A.D. 1118-1152.

Search for Sanskrit Manuscripts.

In the report for the year 1910 it was mentioned that a collection of 625 manuscripts was examined but was not purchased for want of funds. The collection has now been purchased. It contains the following works, among others :—

(1) *Samayodyota* section of Madanaratna. It is a rare section of the code of Madana Simha Deva of the province of De'hi in the 15th century.

(2) *Caturviṁśatimatavyākhyā*, by no less a person than the well-known Bhaṭṭojī Dīkṣit, is another valuable work. It is specially useful as the manuscript of the original has after a long search been acquired. The present collection contains one dated Samvat 1592.

(3) A work on the science of war entitled *Vīraparākram*, by Vāsudeva, copied in 1827, has been acquired. So few of the works on the art of war are known that this may be regarded as a valuable find.

(4) *Smṛti Kalpataru* is an ancient compilation of Hindu Law and Rituals, in several parts, of which only the Vyavahāra Kalpataru is known. The present collection contains a manuscript of Dānakalpataru, dated Samvat 1658.

(5) A Nighaṇṭu, attributed to Vopa Deva, the well-known grammarian of the 13th century, entitled *Hṛdayadipakanighaṇṭu*, has been acquired.

(6) *Caturvargacintāmaṇi* by Hemādri is an extensive Smṛti compilation of the 13th century, four parts of which have been already published by the Asiatic Society of Bengal. The manuscripts of other parts are not available. In the present collection there is a manuscript of Pratiṣṭhākarmapadhati.

(7) Of Todar Mall's compilation of various Śāstras, *Vaidyasaukhya* on medicine has been acquired.

(8) A copy of *Vaidyakalpataru*, known only from Keilhorn's list, has been acquired.

(9) A *Gṛhyasūtra* of the Hiraṇyakeśi school of the Black Yajurveda also has been acquired. It was up to this time known only from lists.

(10) *Dharmavitān* is a code of Smṛti current in Kaśmīr.

(11) *Sivarājarājyābhiṣekakalpataru*, by Aniruddha Sarasvatī, *Rānārājavaṁsāprasasti* by Deva Kumāra and *Pṛthvīrājavijaya* are important historical finds.

The following also may be mentioned as works of some interest:—Navarojāprakāśa by Śivalāl Pāṭhak; Dhārācakra by Gorakṣanātha; Navāvakhānkhānāvarṣapattra; Kokilamata; Samvitkalpa; Daridrāṣṭaka; Ṭhagāṣṭaka; Ambalāṣṭaka by Motiram; Samasyāṣṭaka by Lakṣmīdatta; Śṛngārāṣṭak by Gopīnath and Ganjikāṣṭak by Rajīvalocan.

The special feature of this collection is a number of works on castes, namely:—(1) Jātiviveka. (2) Candrasenīya Kāyasthotpatti Viveka by Gāgā Bhaṭṭa. (3) Kārāṣṭra Brāhmaṇotpatti. (4) Pañcadrāviḍotpatti. (5) Jātiviveka by Gopīnāth. (6) Traivarnika Dharmanirṇaya by Rudra Deva. (7) Brāhmaṇotpattivicāra. (8) Śākadvīpī Dvijarājamāhātmya. (9) Jatinirṇayavākyasaṁgrahavidhi and (10) Gauḍajnātyutpatti.

But the most important manuscript on palm-leaf acquired this year for Government is the *Satasāhasrikāprajñāpāramitā-ratnagunasañcayagāthā*, or simply *Sañcayagāthā*, copied in A.D. 1175, during the reign of Rudra Deva of Nepāl. It was translated into Chinese about the year A.D. 980. It is written throughout with that peculiarly mixed Sanskrit which is known as the Gāthā language. This is, perhaps, the first book written throughout in verse in that language which has yet been discovered. The Chinese regard it as a Sūtragrantha. It is a most important find, as hitherto it was known only in Chinese translations.

An important manuscript on paper is *Saḍāmnāyabheda* Sūtra copied in A.D. 1167. It is said to be a part of Parātantrakrama with an extent of 12,000 ślokas. In this the Adhaḥ āmnāya, or the nether scriptures, are said to be the Buddhist tantras with Vajrayoginī, in her various manifestations, as the goddess to be worshipped. The Kālacakratantra, Samvaratantra, Yogāmbaratantra, Hayagrīva Bhairavatantra and Kālesatantra belong to this Āmnāya.

The very ancient palm-leaf manuscripts of Netrārṇavatantra and Jnānatilakatantra have been acquired, but unfortunately they are not complete.

A palm-leaf manuscript of Tithinirṇayaratnamālā, by Nārāyaṇa Svāmī, has also been acquired.

Coins.

Only 26 coins were received by the Society on presentation during the year 1911. They comprised ten gold—all from Madras—ten silver and six mixed metal.

The gold coins were—

Pagodas and half pagodas of Bijayanagar	..	8
Pandyan from S. Canara	..	1
A " biraraya Panam " from Travancore	..	1

The other coins were of no special numismatic interest. Seven silver coins were presented by the Central Provinces Government, two came from Assam, and one from Bombay.

The six mixed metal coins were from the Punjab.

During the course of the year the Numismatic Secretary examined and submitted detailed reports, with proposals for distribution, on 35 gold, 460 silver and 911 copper coins. He also examined in addition 738 silver and 60 copper coins not recommended for acquisition. All these coins were from the Central Provinces.

Search for Arabic and Persian MSS.

Dr. E. Denison Ross, the Philological Secretary, has conducted the Search throughout the year. Although MSS. in

abundance were offered for sale, very few additions were made, owing to the want of funds; a large sum having been contributed from the A. and P. Fund towards the purchase of the Tibetan Tangur.

During the year under review, Moulavi Hafiz Nazir Ahmad and Moulavi Qāsim Hasīr, the Travelling Moulavis for the Search of Arabic and Persian MSS. on behalf of the Government of India, were engaged in the compilation of a Hand List of all the MSS. (Arabic and Persian) acquired by them during the past years.

Search for Manuscripts of Bardic Chronicles.

Mahāmahopādhyāya Haraprasād Śāstrī, C.I.E., was on tour in Rājputānā for the months of September and October 1911 for the collection of manuscripts of Bardic Chronicles. The Bardic Committee at Jodhpur began work from June 1910. The Committee was presided over by Rāo Bāhādur Sukdev Prasād, C.I.E., It had for its Vice-President Mahāmahopādhyāya Kavirāja Murārdāñji, acknowledged to be the best authority on the Bardic lore of Rājputānā. Purohit Keśarī Singhji, Bābu Lachmandāsjī, Munsi Devī Prasādjī, Bansur Mahādanjī and Barhatt Jorāwārdañjī were the other members of the Committee.

The Committee appointed Paṇḍit Rāmakaraṇ as their Secretary. Paṇḍit Rāmkaraṇ is a good Sanskrit scholar, a good historian whose papers are to be found in the "Indian Antiquary" and in the "Epigraphia Indica," and who helped Professor Kielhorn greatly in the decipherment of the Rajputānā inscriptions. He is doing the work with zeal and earnestness. Four Travelling Paṇḍits are employed to collect materials. They are all men of note. They are Bārhat Jaitdān, Barhat Kiśoredān, Cāraṇ Jagatdān and Bhāṭ Nānu Rām, a descendant of the great poet Cānd, the author of Pṛthvīrājrāso of historic fame. Two scribes were employed at the already existing Historical Duftar of Jodhpur, which has done much valuable work. These were Paṇḍit Viśveśvar Nāth and Paṇḍit Bālakṛṣṇa. The Travelling Paṇḍits bring their notes on Bardic Collections and their collections of Bardic songs from villages, and these are copied in legible Devanāgarī by the scribes.

Paṇḍit Rāmkaraṇ spent much time in elucidating these songs with historical and philological notes. But he has been requested not to spend his time in writing these notes for the present. They will be required when editions of these works and songs are undertaken. He has been requested, for the present, to push on the collection, and to get as many rare songs as possible from outlying villages. There will be time enough in future to think of the notes. The Committee at first held their sittings at the Jodhpur Museum, but latterly in the

Historical Duftar. They have collected the following important historical works:—

(1) Rājarūpaka in 369 leaves. It begins with the last days of Yaśovanta Singh I, and it goes through the reigns of Ajit Singh and Abhay Singh, the most important period in the history of Mārwār.
(2) Guṇarūpak in 134 leaves. It gives the history of the reign of Mahārājā Gaja Singh.
(3) The Jhulnā songs of Amar Singh, Rāo of Nāgore, in 11 leaves.
(4) A work on the battle of Ahmedabad in Guzerat, fought by Abhay Singh as Subādār, in 36 leaves.
(5) Rasaguljār in 16 leaves, being the history of the Rāṭhor family from Siho to Rājā Mān Singh, in the beginning of the last century.
(6) A history, in 30 leaves, of Ratan Singh of the family of Mahes Dās, the first Rājā of Rutlum.
(7) The history, in 15 leaves, of Mahārājā Yaśovanta Singh.
(8) The Chappaya verses of Umedījī, of the Bhāṭ family, in 3 leaves.
(9) The stories of the Satīs, that is, those who immolated themselves on the funeral pyres of their husbands at Rūpnagar, leaves 13.
(10) Songs of Rūpā De, leaves 4.
(11) Jhamāl songs of Devī Singhjī, Ṭhākur of Pokaran, leaves 8.
(12) The history of Sīvadān Singhji, Thakur of Ladan.
(13) Collected songs of the Rājās of the Rāṭhor family of Mārwār, leaves 332. It contains songs from the time of Rao Siho to Yaśovanta Singh II. It contains the history, not only of the Jodhpur family, but also of Bikanir, Kiṣengaḍ, Udaypur, Jaipur, Bundi, Koṭā and Jhālrapatan.

The Committee has also collected the songs of the Sardars of Jodhpur.

All these have been bound into books, the following have not:—

(1) The story of Narbad, leaves 3.
(2) History of Jodhpur, leaves 130.
(3) History of Mutā Nayana Singh.

Besides these nearly 500 songs of the Sardars have been collected.

They have not yet been copied or bound.

The Travelling Paṇḍits have brought information for about 301 works in the different parganas and villages written in Ḍiṅgal Bhāṣā, an account of which is given below:—

(1)	Historical works in verse	54
(2)	,, ,, ,, prose	5
(3)	Songs, verses, stanzas, ballads, etc.	161
(4)	Stories	14
(5)	Well-known works on history	8
(6)	Works on prosody	6
(7)	Works on literature	21
(8)	Ancient stories	8
(9)	Devotional works	11
(10)	Works on love	2
(11)	Work on music	1
(12)	Koṣa	3
(13)	Veterinary works	4
(14)	On elephants	1
(15)	On prognostication	1
(16)	On astrology	1

There are in the Rāj of Jodhpur altogether 290 villages inhabited by hereditary bards called Cāraṇs and Bhāṭs, of which 160 have been visited; 130 require still to be visited. All the Jaigirdars have been requested by the Committee to furnish works relating to their own families, and in their own jurisdiction. But nothing has yet been sent.

The above gives a fair account of the work done by the Bardic Committee at Jodhpur. The untimely death of the late Mahārājā Sardār Singh, and the consequent change of government at Jodhpur, retarded the progress of the work of the Bardic Committee for a time. But the Regent Mahārājā Sir Partāb Singh has taken up the work again in right earnest. He has appointed Ṭhākur Sāhib Gumān Singh Khici, a nobleman with fine historical taste, as the Superintendent of the Historical Duftar and of the Bardic Department.

The same Committee has been continued with Paṇḍit Rāmkaraṇ as Secretary. The report submitted of a year's work by Paṇḍit Rāmkaraṇ is very valuable. The Society hopes that Ṭhākur Sāhib Guman Singhji will soon furnish them with copies of all works and songs that have as yet been collected.

The Mahārājā of Bikānir has asked his Home Member, Babu Kāmta Prasād, B.A., to form a Bardic Committee as soon as possible, and the work there will begin as soon as the Mahārājā returns from Calcutta. While at Bikānir Mahāmahopādhyāya Haraprasād Śāstrī, C.I.E., examined the very valuable library of manuscripts at the Bikanir Fort, which contains nearly 6,000 manuscripts, of which about 50 are Bardic works. The Jodhpur Darbār very kindly lent him the services of Bhāṭ Nānu Rām, who searched out inscriptions in the cenotaphs of the Rājās and in the Fort. Nānu Rām is an enthusiastic lover of historical research.

At Jaipur the Resident, Lt.-Col. H. L. Showers, C.S.I., has offered his good offices to interest the Darbār in the Bardic work, and some works have been acquired.

Through the good offices of Bābu Īśān Candra Mookerjee, son of the late Bābu Kānti Candra Mookerjee, C.I.E., a Jaigirdar of Jaipur, the Śastri was enabled to get a copy of the history of Amber and Jaipur deposited in the temple of Jagatśiromaṇijī at Amber. It begins, as all histories of Jaipur begin, with Īsvarī Simha who migrated from Narvar in Bundelkhand in the 11th century. He also got that portion of a big history of Rājputānā which treats of the reign of Pṛthvīrāj, the last Cauhān king of Delhi and Ajmere.

Through the good offices of Munshi Devī Prasād, Munsiff of Jodhpur, was secured a copy of a Dingal-Koṣa. The only important Bardic work in the Macalister collection, given to the Asiatic Society as a loan in perpetuity by the owner, is a collection of Vāts, or historical stories.

In the Pustak Prakāś of Jodhpur is to be found a large collection of Bardic works. It contains a large number of works composed during the first quarter of the 19th century, collected by Mahārājā Mān Singh, of Mārwār, with whom the British Government came into political relations for the first time in that State The Rājā was a great lover of Bardic poetry, a great patron of Bards, and a composer himself of no ordinary merit.

Catalogue of Sanskrit Manuscripts in the Government Collection deposited in the rooms of the Asiatic Society of Bengal.

During the presidency of Sir Thomas Holland, Mahāmāhopādhyāya Haraprasād Śāstrī, C.I.E., was asked to prepare a catalogue of Sanskrit Manuscripts in the Government Collection deposited in the Asiatic Society's rooms. The sanction of Government was obtained in September 1909, and the work was begun in earnest in January 1910. Eggling's catalogue of the Sanskrit Manuscripts in the India Office Library was pointed out as the model to be followed.

Some of the manuscripts had already been described by Dr. Rājendra Lāl Mitra in his notices. If his descriptions contained all the necessary information about the manuscripts, reference only has been given to his works. If his description was not up-to-date, additional matter has been introduced to complete his description. The works contained in some manuscripts have been described by competent scholars like Weber, Eggling, Peterson, Bhandarkar, Bühler, Aüfrecht and others. In these cases a description of the manuscripts is given, and the reader is referred to their works for a description of the work.

But in majority of instances the manuscripts have to be read over and a full description written. The Jaina manuscripts specially require hard work. The ritualistic works based on the Vedas are particularly difficult. The Pauranic manuscripts have often to be described in full. New poems, new works on Philosophy and new works on Hindu Law and Rituals are many. They too have to be read through and described. Yet 3,100 manuscripts have been catalogued in two years in spite of the various interruptions to which the cataloguist Mahāmāhopādhyāya Haraprasād Śāstrī, C.I.E., is exposed his various other public duties often requiring his presence in distant parts of India. His assistants, Paṇḍit Aśutoṣ Tarkatīrtha and Paṇḍit Nanī Gopāl Banerjee, are doing their best to get through the work in as few years as possible.

The Śāstrī publicly acknowledges the assistance he has derived from Paṇḍit Nanī Gopāl in examining the Sanskrit manuscripts at the Jodhpur Pustak Prakāś Library, at the Bikanir Fort library and at the Libraries of various Jaina Bhāṇḍārs in the cities of Bikānir and Jodhpur.

The Bikānir collection of Sanskrit manuscripts had its nucleus in a loot of Adony in Gaṭur Sircar by Anūp Singh, Rājā of Bikānir, who was a general in Aurangzeb's army which fought against the Kutab Shāhīs of Golkonda. Anūp Singh himself was a learned man, he composed and commented on many works of Smṛti and Tantra, and collected Sanskrit manuscripts from various quarters. Since then there have been many additions to the library from time to time, till it now amounts to 6,000 manuscripts. There is a nominal catalogue from which any manuscript may be easily found. The library is kept in a spacious hall, and every care is taken of the manuscripts. The librarian is a man of learning, and a lover of books.

Through the good offices of Mahārājā Bhairo Singh, the Senior Member of the Bikānir Council, the Śāstrī was given every facility to examine the large and interesting collection which is rich in Vedic and Smṛti works. One Nyāya work deserves special mention. This is Maṇikaṇṭha, treatise on Vyāpti, called in Bengal Vyāgra, whose definition of Vyāpti, Gāṅgeśa takes a good deal of pain to refute in his Anumānacintāmaṇi.

The Pustak Prakāś library of Jodhpur is specially rich in the literature of the Nāthas and of Yoga, having been collected at the time of Mahārājā Mān Singh who became a disciple of the Nāthas and greatly patronized their literature. The Jaina Bhāṇḍārs, both at Bikānir and Jodhpur, contain large collection of Jaina and Brāhminic literature. The collection of each Guru is kept distinct and in different almirahs and with different catalogues. The Bhāṇḍārs of Śrī Pūjya monastery and of Lakṣmī Mohan Pāṭhśāla deserve special notice.

Bureau of Information.

Mahāmāhopādhyāya Haraprasād Śāstrī, C.I.E., Officer-in-Charge of the Bureau of Information in History, Religion, Folk-lore and Usages for the benefit of Civil Officers of Bengal, was employed in examining a large number of manuscripts found in the Bishop's College, Calcutta. The collection was made between the years 1820 to 1840. It contains many interesting works, about 200 in number, in Sanskrit, Tibetan and Burmese, especially the original of the Tibeto-Italian and Italio-Tibetan dictionaries prepared by the Capuchin missionaries at Lhassa about the middle of the 18th century. It also contains a complete copy of the Grantha Sāhib of the Sikhs, a golden book of the Burmese and a complete copy of the Rg Veda with its subsidiary literature. He has submitted two reports on the collection to Government. And he has written the following notes at the request of Civil Officers in Bengal :—

I. A note on Puṁsavan, Ṣaṣṭhīpūjā, Garbhādhān and Jātakarma.
II. A note on the test of Hinduism.
III. A note on the Paṇḍits of Nadiā.
IV. A note on the influence of later Buddhism on modern Hindu Society.
V. A note on the external soul and the puberty customs among some of the castes.
VI. A note on the castes and tribes other than the Khonds, having an idea that the departed souls return to animate human soul in the same family.
VII. A note on the authority exercised on caste system by Kings and Rājās under the ancient Hindu Régime.
VIII. A note on Tilaka marks.
IX. Beliefs connected with Infanticide.
X. The term "Mleccha."
XI. A note on the anācaraniya caste in 24-Parganas.
XII. A note on the question whether all Hindus can be called Vaiṣṇavas as at the last moment of life they take the name of Hari.

—◇—

The President then delivered an Address to the Society.

Annual Address, 1912.

GENTLEMEN,

I understand that it is the duty (as it has been the practice heretofore) for the President of this Society to deliver an address at the annual meeting at least once during his term of office of two years, though not necessarily at the end of the

first year. I am sorry to learn that it has also become the practice of recent years for a Presidential address to be given at the conclusion of each year of office. When the chair was occupied, as it has been for some years past (though for the last two years I am aware only as a substitute), by an orator of the calibre, not to say the experience, of my distinguished predecessor, the Hon'ble Sir Āśutoṣ Mukherji, the preparation and delivery of these addresses was a simple matter—I may say a labour of love. Do we not recall with pleasure the several occasions on which, as President, he has addressed the Society, lavishly giving us the fruits of his ripe scholarship and his wide and profound learning? By drawing material from the rich stores of his philosophical, philological and literary researches has he not given us much food for thought, presented in a form that was easily assimilated and digested? Every address of his, moreover, has been characterized by that clearness and accuracy of detail which is engendered in, and becomes second nature to, any one trained, as he has been trained, in scientific methods of thought. With myself it is altogether different. I am quite unused to making speeches either pre-prandial or post-prandial—especially long speeches. Therefore, when in the early part of last year some of my medical and other friends, members of the Society, intimated to me that it had been proposed to elect me to succeed Sir Āśutoṣ Mukherji as President, I felt at a loss to understand how the choice could have fallen on me, and I confess the many misgivings I had as to the results of the choice caused me much apprehension, and many doubts as to whether I ought to accept the honour. Being conscious of my own imperfections—who is not?—especially in the speech-making line—I hesitated for a long time whether I should take up the mantle offered to me, or should respectfully decline it. In saying this, I do not wish to be misunderstood. Some one—Wordsworth, I think—says:

> "There is a luxury in self-dispraise,
> And inward self-disparagement affords
> To meditative spleen a grateful feast."

This was not my case, as I had neither any desire to assume a Uriah heap-like attitude of extreme humility, nor yet to claim a monopoly of what are said to be the "devil's favourite virtues," i.e., self-depreciation and mock modesty. When, however, I reflected on the distinguished men who had preceded me in this office, men with scientific and literary attainments such as I could have no pretentions to, I venture to say that my hesitation was justifiable. However, a choice had to be made, and, with "all my imperfections on my head," I decided to accept the honour offered me, and to do my best to give you satisfaction and do all in my power to promote the interests of the Society. Whether I shall succeed

is not for me to say, but I ask you to believe me when I tell you that no one appreciates the honour of being chosen President of the Asiatic Society of Bengal more than I do, seeing that I look upon our Society as the premier scientific Society in the premier city of India. I regard the honour not as personal to me, but as bestowed on the profession and service of which I am but a unit. To-night it is my privilege to address you, and, as far as lies in my power, to interest you. I find that since the Society was founded in 1784, there have been in all 40 separate occupants of this chair. Although two years is now the usual time of occupancy, the records show that many Presidents filled the post for a much longer time, some even as long as ten years. Although I have not yet had time to ascertain the precise status and position in life which each of my predecessors occupied, I find that members of the medical profession have been very rarely elected to the highest post in the Society. A possible cause of this may be that very few medical men in Calcutta can spare the time to take up duties outside those which are strictly professional. To be strictly accurate, in the bede roll of past Presidents from 1784—1910, i.e., in 126 years, the name of only one medical man can be found occupying the position of President of the Society, though a few well-known names of medical men can be found in the archives, occupying other important posts in the Society, such as Dr. H. H. Wilson, who became full Secretary of the Society within three years of his arrival in India and held the post for 22 years. Although he was a Surgeon in the H.E.I.C.S., he is more renowned for his Sanskrit erudition than as a Doctor, and he retired to take up the appointment of Boden Professor of Sanskrit at Oxford. Another famous medical man of the I.M.S., who also occupied the same post of Secretary to our Society was Dr. (afterwards Sir William) O'Shaughnassy, the originator of the Telegraph system in India. There are also names of other well-known medical men who occupied such positions as Vice-Presidents and Secretaries of branches, but want of time compels me to pass these by, and as I say, previous to 1911, Dr. Fayrer was the only medical man who ever became President of the Society. Dr. J. Fayrer was elected President in 1867 in succession to the Hon'ble E. C. Bayley. This distinguished Surgeon (who, I may say incidentally, was one of the few survivors of the original garrison who were shut up in the Residency of Lucknow during the dark days of 1857) was at the time of his election one of the Surgeons of the Medical College Hospital. A few years later, he was selected to accompany our late King Emperor (then Prince of Wales) during his tour in India in 1875, and subsequently was made a K.C.S.I. Sir Joseph Fayrer was not only a distinguished Surgeon, but had also a considerable knowledge of Biology as is evidenced by his well-known monograph on the "Thanatophidia of India." I

searched Dr. Fayrer's inaugural address in the hopes of finding some lead for my address to-night, but the search was unsuccessful. Forty-five years ago the Society was somewhat upset as it had just parted with what the President describes as "its noble collections" and (as he goes on to say) "thus associating itself with the inchoate Imperial Museum, and giving an impulse to the progress of science in this country that can hardly be over-estimated." I have recently heard vague rumours of a contemplated transference of the Museum, its contents and staff to "another place" (if I may be allowed the parliamentary phrase) which is variously described as dear, delightful, dirty, dusty, dismal and dilapidated (the adjectives are not mine), but I trust that it is only rumour. Regarding myself as only a student and seeker after knowledge in the fields of pure and applied science; knowing little or nothing about such abstruse subjects as philosophy and philology; not having been "scientifically trained" in any of the wide range of subjects included under the heading of Anthropology, and although deeply interested in all that concern the history and antiquities of this great Empire and the education of its peoples —particularly their medical education—I would not venture to address the learned members of this Society on any of these subjects, and therefore, I have finally decided on the principle of *ne sutor ultra crepidam* to devote the greater portion of my address to some subjects which are closely connected with my own life-work in India now extending over thirty-two years, and of which perhaps I may have some slight knowledge. I hope these subjects will interest you; at all events, they have never been dealt with before in any Presidential address and have therefore the merit of novelty. Before, however, going on to this, there are some other matters which it is my duty to bring before you, and which are rarely or never omitted in these addresses. The first is to tell you that our prospects as a Society are good. Within the past six years, i.e., from 1906, our numbers have gone up from 407 to 519. The second is a melancholy duty. I have to inform you, with regret, that the "reaper with his scythe" has been unusually busy with our members during the past year, as there have been no less than sixteen deaths. From the roll of Ordinary Members eight names have disappeared. Amongst others, I may single out a few who have gone from us and whose life-work was especially distinguished, e.g., a brilliant linguistic scholar in Mr. Hari Nath De, an equally brilliant educationalist and scientist with special distinction in Chemistry in Mr. J. A. Cunningham, a member of my own service in Major Robertson-Milne, who was not only a learned physician, but also a rising Alienist, i.e., a specialist in that most difficult and obscure branch of medicine —mental disease. This list also includes the names of Mr. C. A. Browning, Mr. Muhammad Naemullah, Major B. C.

Oldham, I.M.S., Babu Ambica Charan Sen, and the Revd. L. O. Skrefsrud. The last-named was a well-known student of the dialects of India with a special knowledge of Santali. Amongst Life Members there have been two deaths, viz , Saiyid Āli Belgrāmī, an oriental scholar and educationalist, and Sir Wālā Quadir Saiyid Husain Āli Mirzā, the second brother of the late Nawāb Bahādur of Murshidabād, and uncle of the present Nawab Bahadur. Of the last-named gentleman, I gather from his biographer (Bābu P. C. Mazumdār) that he had "a genial temper coupled with a strong desire to do good, and a sense of disinterestedness which was the admiration of all." He adds (in words that are in parts somewhat reminiscent of a service with which many of us are familiar) : "In prosperity and adversity, in health or in sickness, in happiness and despondency, Nawāb Wālā Quadir has been the constant companion of his friends and relatives. He was a keen sportsman and an intelligent conversationalist. His *beaux esprits* have cheered up many a sorrowing home, and his jocundity has brightened up many a sombre hearth." With touching simplicity, albeit somewhat quaint English, the biographer goes on to say, "He is one of those members of the Nizamut family who have not in their lives touched coin." From which I conclude that our late colleague (unlike so many members of the aristocratic world of to-day) was not interested in commercial pursuits, in fact, rather despised them. The concluding lines of his biography clearly explain why the Nawab Bahadur was induced to become a member of the Asiatic Society. "He enjoys a reputation as a good Persian scholar, and is a poet and versifier besides." I think, gentlemen, I am only expressing the feeling which you share with me when I say "Peace to the ashes of one who was not only a kindly and cheery soul, but also a scholarly colleague." Amongst the Honorary Fellows we have had four deaths, the foremost name amongst these being that of the world-renowned and illustrious botanist, Sir Joseph Dalton Hooker; others are Mr. C. Irvine, Professor P. Regnaud and Acharjya Satyavrata Samasram. One of the Honorary Centenary fellows, Mr. C. Meldrum, also died during the year under review. You will, I presume, agree that as it would be quite impossible for me in the limited time at my disposal to deal at all adequately with the work and life-histories of all of these distinguished men : it is far better that I should not attempt the task. I deeply regret the decision, but it is inevitable if I am to finish to-night.

(1) Saiyid Āli Bilgrāmī was for many years Member for Education under H. H. the Nizām of Hyderabād, and subsequently became a Member of the Council of the Secretary of State for India. He was a distinguished oriental scholar.

(2) Harināth De was born on the 12th August, 1877. His father, Rai Bahadur Bhūtnāth De, was a distinguished

pleader in the Central Provinces. He had a remarkable University career. He was almost invariably in the first class in his examinations, in India or in Europe. He was the recipient of many medals, prizes and scholarships. He passed his Entrance and F.A. examinations from St. Xavier's College, securing the Duff Scholarship for languages. He graduated in 1896 with first class honours in English and Latin. The same year he obtained his M.A. degree in Latin. He also passed the special examination in Greek. As a result of his achievements, he was awarded the Government of India State Scholarship of £200 per annum for four years. With this assistance he went to Cambridge in 1897, where he obtained places in the Classical and Medieval and Modern Languages Triposes in the first and second class. Later on he obtained the Skeat's prize and the Chancellor's Gold Medal for classical verse. While in Europe, he studied at the Universities of the Sorbonne, Marbourg and elsewhere, acquiring that mastery over European and Asiatic languages for which he was so well known. In 1901 he was appointed to the Imperial Educational Service, and returned to India as Professor at Dacca. After serving for some time as Professor of the Presidency College and Principal of the Hooghly College, in 1907 he was appointed Librarian of the Imperial Library. He died on the 30th August, 1911, being just over thirty-four years of age.

He joined the Asiatic Society in 1903, and served on the Council and on the Philological Committee. He published various articles in the *Journal* and *Memoirs* of the Society, and at the time of his death was engaged in editing some works intended for publication in the *Bibliotheca Indica* Harinath De's untimely death at the early age of 34 may perhaps be regarded as exemplifying the occasional truth of the old adage which has been handed down to us by Plautus, "Quem Di diligunt, adolescens moritur," which has been freely translated by Byron into "Whom the gods love die young." By his death not only India, but the whole world is the poorer, and, speaking for ourselves, we have lost a brilliant scholar with exceptional linguistic talents, and one who had he lived might have gone far and done much.

(3) Professor Regnaud was elected as Honorary Fellow of the Society in 1879 in appreciation of the great services he had rendered to the cause of semitic learning. He was an eminent Arabic scholar, and wrote much on the literature of the Arabs and conducted researches into the geography of Asia as known to the Arabs.

(4) To attempt to condense into a few words and at the same time to do adequate justice to the life-history of that distinguished man, Sir Joseph Dalton Hooker, who only died about two months ago at the ripe patriarchal age of 95, would e to attempt an impossible task. Fortunately, I am spared

this duty, as in No. 1 of our January *Proceedings* you will find an admirable biography which has been contributed by Major Gage. I can only to-night bring before you a few main facts in the career of this most illustrious man of science. His connection with this Society was unbroken for more than 60 years. Originally elected in 1848 an "Honorary Member" as one of the most eminent scientific men of the day, this designation was recently changed into that of "Honorary Fellow." Sir Joseph Hooker's father, Sir William Hooker, was also a distinguished botanist, and filled the chair of botany in the University of Glasgow in 1820. Young Hooker received his early education at the High School and later at the University of Glasgow, and worked at botany in his father's herbarium. Being at that time destined for the career of a Naval Surgeon, he obtained the degree of Doctor of Medicine at the University of Glasgow in 1839 at the age of 22, and qualified for the Naval Medical Service. I may remind you that at least three of the scientifically intellectual giants of the 19th century, and who were contemporaries, began their careers in the Naval Medical Service. I refer to Darwin, Hooker and Huxley. In the same year he was attached as Assistant Surgeon and Naturalist to the Government expedition under Sir James Clark Ross for the investigation of territorial magnetism in the Antartic. The expedition lasted from 1839 to 1843, and, during this time, Hooker had the opportunity of visiting the Azores, Madeira, Canaries, Cape Verde, St. Paul's Rocks, Ascension, St. Helena, South Trinidad, Auckland and Capbell islands, Kerguelen, Terra del Fuego, the Falklands, Tasmania, New Zealand and Australia. As the fruits of this expedition there appeared, between 1844 and 1860, the Flora Antartica, the Flora Novae Zelandiae and the Flora Tasmaniae, the publication of these taking so many years owing to the fact that shortly after this expedition Hooker became assistant to Graham, then Professor of Botany in Edinburgh, and in 1845 Botanist to the Geological Survey to Great Britain, while a more prolonged interruption was caused by Hooker's expedition to India. Sir J. Hooker was in India during 1847 to 1851. His travels in India ranged from Calcutta to the Tibetan border of the Eastern Himalaya, and from Mirzapur to the Khasi Hills and Chittagong. A general account of his Indian journeys was published in 1854 under the title of "Himalayan Journals," and forms a classic of the literature of travel. While in Sikkim, Hooker had a full share of adventure, being imprisoned, along with his friend Dr. Campbell, by the then Rājā of Sikkim. More than fifty years afterwards the present heir to the Sikkim State visited the one-time captive in his English home at Sunningdale. Despite the hardships of imprisonment and an inclement climate, Hooker returned to England with an immense collection. Two magnificent descriptive

folio volumes with coloured plates were published, one in 1849 on the "Rhododendrons of Sikkim," the other in 1855 entitled "Illustrations of Himalayan plants." It is from the period of his Indian journey that Hooker's connection with our Society dates. In 1836 Hooker's father was appointed Director of the Royal Botanical Garden at Kew, and in 1855 Hooker the younger was appointed the Assistant Director, and in the same year (with Dr. Thomas Thomason of the Royal Botanic Garden, Calcutta) he published the first volume of a projected "Flora Indica." Hooker's travels did not cease with his appointment, as he subsequently explored Palestine, Morocco and the rocky mountains and California in the interest of botanical research. In 1865 Joseph Hooker's father died, and his distinguished son succeeded him in the Directorship of Kew Garden and held the post for twenty years. It is worthy of notice that from his purely botanical work Hooker played a very important part in the development of the theory of organic evolution, and this was publicly acknowledged in 1908 when he received the Darwin-Wallace Medal from the Linnean Society. It is not possible to enumerate in the time at my disposal all the titles and honours Sir Joseph Hooker received from various bodies and societies; I can only notice a few. He was elected a Fellow of the Royal Society at the age of 30, and from 1872 to 1877 was President of that body. He received three of the Royal Society's Medals, and medals from the Geographical, Arts, and Linnean Societies, and in 1907 a medal which had been specially struck in his honour by the Swedish academy to commemorate the two hundredth anniversary of the birth of Linnes. He was a D.C.L. and LL.D. of various British and other Universities. Was decorated by the State with the C.B. in 1869, and with the K.C.S.I. in 1877, and the G.C.S.I. in 1897, and with the Order of Merit in 1907. He also held the Prussian Order "Pour la Mérite" and the Royal Swedish Order of the Polar Star, while he was a member of numerous learned societies in all parts of the globe. From his extremely long and highly-honoured and honourable life, his extensive travels, his phenomenal knowledge, the number, variety and erudition of his works, and his influence on the advance of biological science, the career of Sir Joseph Dalton Hooker is and must remain almost unique.

As was fitting, sepulture in Westminster Abbey was offered, but, in accordance with his own wishes, his remains were laid beside his distinguished father in Kew churchyard.

(5) Mr. William Irvine was a member of the I.C.S., arrived in India in 1863, and joined the Society in 1866. He wrote papers on the Bangash-Nawābs of Farukhabad, also made a valuable collection of Persian and Urdu manuscripts dealing with the period after the death of Aurungzebe. After he retired in 1888, he still continued his interest in the Society

by contributing a series of articles to the *Journal* on the "History of the later Moghuls," but did not live to complete the series. He published also an edition of the Storia do Mogor by Nicolao Manucci in the Indian Text Series which will always form a lasting monument to his scholarly patience.

(6) Ambicā Caraṇ Sen, born in Dacca and belonged to the Vaidya caste, studied at the Presidency College and took his M.A. in 1873 in Natural and Physical Science, and joined the Krishnagar College as Professor in that subject. In 1878 he was selected for an agricultural scholarship, and went to England and was trained at Cirencester College and distinguished himself there. On return to India, he was appointed to the Agricultural Department, and rose to be Assistant Director of Agriculture, but his talents must have been somewhat of a versatile nature, as from this agricultural post he was promoted to be a Sessions Judge and served in this capacity in several districts. Early in life he joined the Brahmo Samaj community. He devoted much time to the critical study of the Vedas and read several papers on this subject at meetings of the Society, one of these papers being specially noticed by my learned predecessor (in the address for 1910), which dealt with Tuita, one of the Hero Gods of the Rig Veda, and which Sir Āśutoṣ Mookerjee considered of "considerable interest from an anthropological point of view."

(7) The late Mr. J. A. Cunningham was a distinguished member of the Indian Educational Service. On his arrival in India in the year 1903, he was posted to the Presidency College as Professor of Chemistry, and the valuable work he did in that capacity, both individually and in conjunction with his advanced students, is reflected in the *Proceedings* of the Asiatic Society, of which he was a valued member. He also on several occasions acted as Meteorological Reporter to the Government of Bengal, and with characteristic energy threw himself into the work of original investigation in that branch of science. Later on he forsook his professorial chair to take up administrative work as Inspector of Schools in the Chota Nagpur Division, but although the duties of that post absorbed the greater part of his time, he always kept in close touch with the activities of the scientific world.

Time will only allow me to glance very briefly at the work done during the past year and the progress made in the various sections of the Society.

Anthropology.—The Secretary of this section, you will see, reports that very few papers were published during 1911 on anthropological subjects, and that "comparatively little interest is taken by members in such subjects." This dearth of papers and lack of interest is also reported to be "inevitable so long as there is no recognized authority in India to whom persons interested in the study of man can turn for advice, confident

that they are receiving true expert advice." It has sometimes occurred to me that a subject so vast and comprehensive as the "study of man" would necessarily take in such an enormous field of observation and record, that no individual, however encyclopaedic his knowledge, would be competent to fill the post of referee. He would almost need to be omniscient, and human omniscience is a contradiction in terms. I fear that we shall probably need a small army of "recognized authorities," —in fact an expert bureau.

Philology.—A number of useful and important articles of historical and philological interest have been contributed to the *Journal* and *Proceedings*, amongst which I may mention two articles by Mr. H. Beveridge (*a*) on a dubious passage in the Ilminsky edition of the Baburnama, and (*b*) on the Poet Maili of Herat. Also an article by Bābu Rākhāl Dās Banerji, M.A., entitled "Inscribed Guns from Assam." There are apparently seven of these inscribed guns extant, and one of them is said to be a Naw-wara Top or Naval gun. There is a most interesting and scholarly article in the *Journal* for April, and which is of peculiar interest at the present time, by the Rev. H. Hosten, S.J., under the title "Father A. Monserrate's Description of Delhi. Firoz Shah's tunnel." It was written in 1581, and dealt with a subterranean tunnel for water in that city, which had been constructed by Firoz Shah and was about $4\frac{3}{4}$ miles in length. The text and maps seem to indicate that the tunnel ran from Firoz Shah's Kotila to Rai Pithora.

Lt.-Col. Phillott contributed some useful notes on Urdu grammar. In the *Journal* for June we find a very useful contribution by Mr. Kirkpatrick entitled "A vocabulary of the Pasi Boli, or Argot of the Kunchbandiya Kanjars," a gipsy tribe of India. Also in July a second article by the same author on "Folk-songs and Folk-lore of the Gehara," who are an endogenous section of the Kanjars. I have only time to refer to some notes by Mahamahopadhyaya Hara Prasad Shastri, C.I.E., on "a newly-found Buddhist Sanscrit work called Catuḥśatika by Āryadeva." There are a large number of other articles showing us that this section of the Society has been very busy.

The search for Arabic and Persian manuscripts went on throughout the year under the guidance of Dr. Denison Ross. Large numbers of these were offered for sale, but the want of funds prevented their acquisition. The travelling Maulavis were engaged in the compilation of a hand-list of manuscripts previously purchased.

In the *Natural History Section* learned contributions have been made in chemistry by Dr. Rāy and his pupils, and by Mr. David Hooper, one of which I shall have occasion to specially mention later on.

In Botany by W. W. Smith, Mr. Burkill and Prof. West.

Many biological specimens have been examined by Dr. Annandale and others from time to time at our meetings.

The Search for Bardic Chronicles was energetically carried out throughout the year by Mahāmahopādhyāya Hara Prasād Śastrī, C.I.E., who toured in Rājputānā during the months of September and October, 1911. In connection with this work mention might be made of the Bardic committee of Jodhpur, which is doing excellent work, especially the energetic Secretary of this committee, Pandit Rām Karaṇ. It is expected that a Bardic committee will be formed shortly at Bikanir, as H.H. the Mahārājā of Bikānīr is much interested in the subject. There are also hopes of good work at Jaipur.

During the year under review I am glad to report that a very large number of Sanscrit manuscripts, some of them of extreme rarity, have been acquired by purchase, and amongst these is a unique manuscript on palm-leaf copied in A.D. 1175. The learned compiler of the report states that it is perhaps the first book written throughout in verse in that language which as yet has been discovered. It has hitherto only been known in a Chinese translation and is a most important find. During the year 1911, no fewer than forty fasciculi of important texts of different dimensions have been published in the *Bibliotheca Indica*, works in Sanscrit, Hindi, Arabic, and Persian on such subjects as Astronomy, Logic and Philisophy, Grammar, and Biography, and a Sanscrit-Tibetan Dictionary.

In the Medical Section some valuable papers have been read during the year on various professional subjects. I am glad to report that this section continues to flourish. It has not yet been six years in existence, and it numbers 95 members. The meetings have been fairly well attended. Captain Sandes is now the Secretary of this section. I will now, with your permission, pass on to some special work which has been done by the medical members of the Society. I shall commence with some extremely valuable work in connection with the Metabolism of Food by Major David McCay, Professor of Physiology at the Medical College.

Researches on the Metabolism of Food.—After the opening of the new physiological laboratories at the Medical College, it became the custom of the staff of the Medical College Hospital to send different pathological fluids for complete analysis. The results obtained differed so widely from the standards that have been worked out for Europeans that it became an urgent matter to determine the normal standards for the people of Bengal, in order that rational deductions might be drawn when a departure from that normal was found to occur. On proceeding to determine those standards for the blood and other fluid secretions and excretions of the body, it at once became evident that the solid constituents of those fluids in the Bengali were very much less than those given in the accepted

standards for Europeans. In round numbers the figures were from ½ to ⅓ of the European standards. Some of the more important differences were (*a*) the large percentage of albuminous material in the blood, and the higher percentage of water, (*b*) the great deficiency of the haemoglobin or red-colouring matter of the blood, and (*c*) the pressure at which the blood flows in the arteries was found to be very much lower in the Bengali than in the Europeans, whilst (*d*) the time required for clotting of the Bengali's blood was much less than that of the European, in fact, only about half. As would be expected from these differences in the blood, a similar type of difference was found to occur in the other fluids and secretions of the body, as these are derived from the blood.

Having determined the difference in the chemical composition of the fluids in the Bengali as contrasted with the European, the next step was to examine the food dietaries of the people on which, eventually, these differences must depend. This line of research plunged the work into the subject of protein metabolism, around which acute differences of opinion have arisen. As is now widely known by most people, the old and hitherto well-established views on the amount of albumen considered necessary to keep the body in an efficient condition qua health, capability for work and resistance to disease have been seriously called in question. Professor Chittenden of Yale University has brought forward a mass of experimental evidence to show that it is possible to live and seemingly maintain health, strength, and the energy requisite for a considerable amount of work on a diet that is of less than half the value of the usual standard of albuminous material. Not only does Professor Chittenden say that less than half the usual amount is sufficient to maintain life, but he advocates this quantity very strongly as immensely superior to the old standards in the upkeep of the body in health and efficiency. The fact that where there is a choice of food, men, wherever found, consume quantities of albumen up to the old standard of about 3½ ounces per day, and that where races are found who do obtain this amount in their daily fare, happen to be the ruling races of the earth, is explained by Chittenden and his followers as the results of the blind instincts of a capricious appetite. In other words, the human animal being at heart a glutton, as soon as he can afford to eat in excess, he promptly does so.

The work done in India on this important subject has been generally regarded as completely answering the deductions made from Chittenden's laboratory experiments. It so happens that the teeming millions of the rice-eating areas of India live on the amount of albumen Chittenden considers sufficient, and it soon became evident that a dispassionate survey of the races and tribes of India showed that this condition of albumen semi-starvation is accompanied and followed

by a series of circumstances that is neither for the physical welfare nor the efficiency of those whose daily food is deficient in albuminous principles. In the work connected with these researches, the food stuffs of Assam, Behar, and the United Provinces have been analysed, and owing to the kindness and co-operation of Professor Benedict of the Carnegie Institute of Washington, the heat values of the food materials have also been determined and placed on a sure foundation. During all these investigations, those engaged in the work have taken advantage of every opportunity of studying the effects of a high and a low level of albuminous interchanges within the body on the physical development, efficiency and general well-being of the different tribes and races in India. By elimination of all other factors as can be done in a study of people living under identical conditions and customs, but where diet and particularly the albumen aliment in diet is not the same, the conclusion is arrived at that those races, tribes, or people who obtain a liberal allowance of albumen in their daily food are superior in physique, efficiency, health, and general capabilities to other tribes and races, etc., whose allowance of albumen has been habitually curtailed. It is very generally recognized that it is only by research on a large scale conducted on fairly large numbers of people living under natural conditions, that progress will be made in the study of the nutrition of the body, and not by laboratory experiments, however interesting these may be. In India we possess unrivalled opportunities and possibilities for such research, I may even say such as no other country in the world can give. I appeal with confidence to my Indian hearers to say whether they do not consider that problems connected with food and diet are amongst the most pressing medical problems of the day in this country and which require to be earnestly grappled by the rising generation of medical practitioners. The hitherto unsolved riddle of that type of glycosuria which impairs the health and ultimately carries off so many of the highest intellects of the day in this country just when they are ripening and wanted for the country's use is awaiting solution. Like gout and rickets, glycosuria, in many instances, is undoubtedly associated with, and brought about by, some disorder of metabolism. Its genesis baffles the keenest intellects. Is improper diet one of the main factors in its causation? If so, how does it act? That curse of modern civilization, dyspepsia, and ambol (acidity) one of its distressing symptoms why is it so common in Bengal? Is excess of starchy diet the only factor? Why is it so incurable? Is it racial? Again the so-called infantile or biliary cirrhosis of the liver. How is it brought about? Then again take the causes of the very high mortality amongst your infants in large Indian cities. My friend, Dr. Indu Mādhab Mallik (also a member of the

Society) at a lecture recently given by him at the University Institute, at which I had the honour of presiding, brought forward some startling figures on this and other kindred matters. Before concluding this part of my address, there is one other disease very prevalent in the East which I cannot pass over, and which appears to have an intimate connection with dietetic problems. I allude to beri beri, which some consider identical with a condition which has been very prevalent in Calcutta during the past ten years and which has been provisionally called epidemic dropsy. The researches of Stanton and Fraser in the Malay States conclusively proved the connection between beri beri and decorticated polished rice, in the manufacture of which the outer coverings are removed, and with them certain substances which are essential to health. By adding the removed polishings of the rice to a diet, beri beri can not only be prevented, but can be actually rapidly cured in animals already severely affected by the disease. Very recently the active agent in the cure has been separated and by its use serious symptoms can be materially alleviated within a day or two. In the Philippine Islands beri beri has already been stamped out of jails and asylums which had previously been affected year after year. Major Grieg, I.M.S., working in Calcutta, has confirmed this work and shown that outbreaks of epidemic dropsy have always occurred at times of scarcity and extensive importation of highly-polished rice from Burma. Unfortunately the outbreak had almost died out before he was appointed to investigate it; so his work has been entirely experimental and proof is still wanting as to whether epidemic dropsy can be successfully prevented and treated on the same lines as beri beri (*Scientific Memoir*, 1911). But the clock tells me that I must leave this fascinating subject, and although I have barely touched the fringe, I have, I hope, shown you how full of interest the food question is, and how numerous the grave problems there are awaiting solution in this India of ours, and which we hope will one day be solved by the patient enquirer. To turn to another subject, that of haematology or examination of the blood. Much good work has been done of recent years, and members of our Society have not been idle. One of them, Rai Upendra Nath Brahmachari, the learned teacher of medicine at the Campbell Medical School, has done a considerable amount of original research work in this field. Among other matters, he has endeavoured to determine how haemoglobin exists within the erythrocytes or red-blood corpuscles. By observations on haemolysis (or blood destruction) he first tried to prove that it existed in the form of suspension, and that its solution in distilled water on hyposmotic saline solution follows the law of Mullanby and Hardy. He has further tried to prove that during haemolysis the erythrocytes exhibit a specific resistance

to rupture which varies in different animals. By studying the freezing point of haemolyzed and unhaemolyzed blood cells he has ascertained that this specific resistance is not due to any difference in the permeability of erythrocytes to water, but to their power of being able to bear the tension of distension after swelling up during osmosis. By observation on erythrocytes treated with saturated saline solution and by a study of the effects of evaporation on erythrocytes, he is of opinion that haemoglobin exists within red corpuscles in combination with water. Further research is needed to confirm or disprove these views. In the field of Entomology Dr. Brahmacārī has discovered a new anopheline in Calcutta which Major Christophers, the eminent malarial expert, has named after him. It is closely allied to Myzomyia Listoni, but with slight morphological differences in the proboscis and different markings on the legs and palpels. Dr. Brahmacārī has also elaborated a method for the determination of anophelines in any locality based on a daily count of the larvae from the breeding places in the locality, and in this way he has shown that the largest number of Anopheline fuliginosus is found in Calcutta about November.

Dr. Brahmacārī has also been investigating that grave condition known as "Kala Azar,[1]" or as I prefer to call it "Kala Jar," and has made some observations on the Wasserman reaction with the spleen extract from cases that have died of the disease, but as yet no definite conclusion has been come to. Finally, he has reinvestigated the vast literature on the subject of the precise nature of the old Burdwān fever which caused such a terrible mortality some decades ago. His conclusions appear to him to suggest that this fever which decimated Burdwān and neighbouring districts was in reality the simultaneous prevalence of malarial fever and Kala Jar, both in an intense form.

Recent advances in Tropical Medicine and Pathology.—There is no branch of medicine in which greater advances have been made of recent years than in tropical pathology. I may without exaggeration say that it has advanced by leaps and bounds and notable discoveries are announced every year. This discovery may be a new fact or some new disease, or some fresh light on an old disease, or may be some idea full of promise

[1] Kala-azar is the popular word in use at the present time, but there is no doubt that it is etymologically and phonetically wrong and that the correct spelling is Kāla-jar, derived from the Assamese and meaning "a deadly fever." This is borne out by Rev. M. Bronson's Assamese-English dictionary which gives "jar" as a synonym for fever and explains "kāla" as death, although it may also mean black. Hem Chandra Baruah, in his Hema-kosa, derives "jar" from the Sanskrit "jvara" meaning fever, and quotes "jar par haoya" meaning to be laid up with fever. He derives "kāla" from the Sanskrit "kāla" and puts time and death as synonymous words.

which threatens to revolutionize and upset all our former ideas. I may safely assert that thirty years ago tropical pathology considered as a distinct and separate branch of medicine could scarcely be said to exist. Since then so many new countries have been opened up in Africa and elsewhere which have called attention to this class of work. The establishment of two English schools of tropical medicine has also brought the training of large numbers of medical men (who either already practise in the tropics or intend to do so) in methods of microscopical investigation. Scientific expeditions to Africa and other hot countries have followed each other in rapid succession, all helping to keep the subject of tropical medicine constantly before the public gaze. India has not been idle in this field, and within the past 15 or 20 years an immense amount of quiet work has been done, though unfortunately much of it is not accessible to the general public as it is buried in official reports, and for this and other reasons has not as yet received adequate credit and recognition. There are many silent workers about whose work little or nothing is heard except by their professional brothers. At the Medical Congress in Bombay, in 1908, one of the distinguished medical guests from the Philippine Islands remarked that if much of the work which had been done in India had been carried out elsewhere the medical world would have heard much more of it. The Medical Section of the Asiatic Society has done something, and we hope will do even much more, to encourage the bringing forward and publication of the vast amount of valuable work done in the large hospitals in Calcutta and other towns. Much more still remains to be done in this direction, as at present, if I may say so, we have only skimmed the cream. Amongst a host of other professional subjects which have been debated in the Medical Section, I might single out for special mention one, drawing attention to the enormous prevalence of tubercular diseases in Calcutta, and other places in India, and the resolution which was unanimously adopted, pointing out the urgent need of Sanitaria in suitable localities for the successful treatment of the victims of this fell disease. It is now generally recognized that in Bengal (either as it exists now and including Behār, Chotā Nāgpur and Orissa, or as it will exist in the future shorn of those parts, but with additional territory in the East) the prospects of finding a suitable locality for a Sanitarium on modern lines for phthisical cases do not seem to be encouraging. There would appear, however, to be many admirable sites in the Western Himalayas of the United Provinces and in the Punjab. It is a point worth considering whether some plan could not be devised by which the people of Bengal could obtain facilities in the other more fortunately situated Provinces by the payment of a subsidy to the U. P. and Punjab Governments.

I pass on to the subject of fevers, malarial and other. As you probably know it was Laveran who first discovered the malaria parasite in 1880 at Algiers, and I may assert without fear of contradiction that his investigations (confirmed and amplified as they were, especially in Italy, by observers like Marchiafara, Celli, Golgi, and Bignami, etc., and which were followed up by the painstaking work of Sir P. Manson and others, and all of which paved the way for the epoch-making discovery some years later by Sir Ronald Ross of the I.M.S.) have revolutionized our ideas about malarial infection. Previous to Ross' great discovery, though the parasites of malarial fever were known and efforts had been made to artificially cultivate them, these had always failed. They have also hitherto never been discovered in inanimate objects in the air, water or elsewhere. On their discovery two questions were raised : whence do they originate ? and how do they invade the human body ?

The three hypotheses were—

1. Aerial infection. 2. Drinking water infection.
3. The mosquito theory.

It is unnecessary for me to discuss the first two of these theories, as the evidence in their favour is quite inconclusive, and the theory which holds the field is the last. It is said by some that this is by no means a new theory and that it is mentioned by some of the older writers (such as even Susruta, Columella and Viturins, and in later times by Lancisi) who all believed that malaria was transmitted by the stings of insects. Whatever credence we may place on these assertions, there is no doubt that it was Ross' daring leap which established at a bound the inoculation into the human subject of the phase of the malarial parasite which developed only within the *Anopheles* class of mosquitoes. Ross, taking his cue from Sir P. Manson's work in 1877 on the intimate connection between Filariasis and mosquitoes, and his suggestion that there might be a stage of development of the parasites in the mosquito, was able to trace the full development of a bird parasite in Culex, and partially that of a human parasite in the Anopheline. The full development of the human parasite was thrashed out by Grassi, who also showed that only Anophelines are capable of transmitting the parasite. This great fact has enabled measures to be taken to eradicate malaria from infected places such as Ismailia and elsewhere. Unfortunately these measures are not so easy to carry out on a large scale in the enormous swampy areas of lower Bengal. In fact are impracticable. The malaria parasite is transmitted by a special kind of mosquito—not every mosquito. There are some three or four hundred different species of mosquito, of which the females are mostly known, and probably half as many undescribed species. Luckily only a small portion of

these are believed to be malaria carriers. They all belong to a sub-family of the Culicidae–Anopheline of which there are 80 known species. Of these 80 about 20 are certainly malaria carriers, but it is safe to look on all Anophelines with suspicion. It is the voracious female Anopheline which has to be slaughtered wherever found, as she is the blood sucker and does the mischief. The male does not suck blood and is therefore not directly concerned in the transmission of malaria. He has bushy plumose antennae. In the female, i.e. the vampire, the antennae are almost naked and the palps are about as long as the proboscis. This is an easily recognized and, some hold, an absolutely distinguishing feature, and that in other mosquitoes the palps in the female are either rudimentary or very much shorter than the proboscis; but later biologists do not admit this classificatiou and rely on other morphological differences with which I need not trouble you. Besides being directly concerned in the spread of malaria, it has been proved that they take a large share in the diffusion of other diseases :— Filariasis, yellow fever, and possibly seven-day fever. I wish I had time to tell you of the small fishes popularly termed "millions" which live in shallow water and are voracious feeders on the eggs, larvae and pupae of mosquitoes. They belong to the species Giradinus poeciliodes de Filippi and are found in Barbadoes which is very free from malaria. There is strong evidence that they or similar species should be introduced into malarious places as a prophylactic measure against the disease. The female Anopheline prefers to lay her eggs in clean water where there are some weeds, and the great importance of these little fish is that they are able to live in very shallow water and to work their way in amongst dense surface vegetation and thus gain access to the larvae.

A consignment of these fish was brought from the West Indies to India in 1909 and taken to the United Provinces. Possibly also experiments were made elsewhere in India, but I am not aware whether any definite beneficial results have accrued from these experiments in India.

There are three varieties of malarial parasites at present known :—

(1) Plasmodium Malariae
(2) Plasmodium Vivax
(3) Lavernia Malariae

} These are only three at present known to cause malaria. There may be others.

The classification of the sub-kingdom of protozoa is, however, by no means satisfactory at present, and will have to be considerably altered in the near future. Usual classification is into four classes or phyla—(1) Sarcodina, (2) Mastigophora, (3) Sporozoa, and (4) Infusoria. Sporozoa, to which the malarial organisms belong, are parasites without motile organs.

1. Sarcodina move and capture food by pseudopodia.
2. The mastigophora by flagella, and Infusoria by cilia.

There is some evidence that these groups are closely allied, and many biologists believe that this is the case. A very great deal of "spade work" has been done in India on this subject, and I need only recall the names of Rogers, Christophers, James, Patton of the India Medical Service, Dr. Bentley in Assam, and that of Dr. Upendra Nath Brahmachari in this city in this connection; and there are many others which I could also mention. Special malaria classes are held twice yearly in Amritsar for instruction in malaria investigation, methods, etc., and attended by many medical men,—I.M.S., M.A.S., C.A.S. and others,—and instruction is given by specialists in modern methods of malaria research; and their value you will readily concede is incalculable. If I had time, there are many other febrile conditions which I might mention—7-day fever, 3-day fever, and Malta fever.

Kala Jar—1869 *in Garo Hills.*—The word was first used in the Garo or some other Assamese dialect to indicate a well-known and fatal disease very prevalent in the Garo Hills and in Assam, and now known to be very widely distributed throughout India, Ceylon, China, Arabia and Egypt, and in other parts of Africa, and it or a closely allied condition is also found in other tropical and even semi-tropical countries of the world. The parasites causing it are now morphologically classified as the Leishmania, a sub-class of the Protozoa of the family Herpetomonidae. The characteristic is a well-developed flagellum in some stage of their existence. Three have been described, associated with disease: Leishmania Donovani 1900, Leishmania tropica (Wright) in 1903, and Leisnmania infantum (Nicolle) 1908. Originally discovered in 1900 by Col. Sir William Leishman, R.A.M.C., whilst examining a film taken post mortem from a case of what was then called "Dum Dum fever," the results were published in May 1903. In July 1903 Major Donovan, I.M.S., Madras, found similar bodies in blood taken during life by spleen puncture.

In July 1904, Major Rogers announced that he had succeeded in observing the development of these parasites into flagellates by cultivating the blood taken from a case of Kala Zar, pointing to an insect carrier: and Patton in Madras later has found that these bodies could develop into typical flagellates in the bed bug (Cimex rotundatus). We now generally believe that this parasite Leishmania-Donovani is the cause of the disease known as Kala Zar or tropical Spleenomogaly, and that it is probably spread by some insect, but that the particular carrier is unknown as yet. The treatment of this disease, I regret to say, remains most unsatisfactory.

2. Leishmania tropica is found in Delhi boil and Lahore or frontier sore. A very strong scientific commission for Kala Zar, I have strong reason to believe, will shortly be appointed.

3. Leishmania infantum (Pianese and Nicolle) is febrile

splenic anemia seen in children in Italy and N. Africa accompanied by enlargement of spleen and liver.

Plague.—Known in Bombay since 1896. In Garhwal from time immemorial. How introduced? Our knowledge of this terrible disease has been greatly increased by the admirable work of Major Glen Liston, I.M.S., at the Parel Laboratory at Bombay, and I may mention his original and convincing experimental demonstration that true plague is a natural Epizootic disease in rats (Mus Rattus and Mus Norwegicus), and that human plague is only an offshoot. Liston's researches showed that one particular species of rat flea—the Lemopsylla cheopis—is chiefly responsible for spreading plague from rats to human beings, though other rat fleas may also act as carriers of infection. Verybitski of St. Petersburg also suspected rats in 1904. Liston's result have been amply confirmed by the Plague Commission of 1907. Preventive measures can now be directed into right lines, and much expenditure on useless disinfection diverted to more efficient methods of prevention. I plead for more workers for this and other equally grave diseases.

Cholera.—The treatment of this terrible disease has advanced considerably of recent time, principally through the energy and remarkable work which has been done by Major Leonard Rogers, Professor of Pathology, Medical College, and the originator and formerly the energetic Secretary of the Medical Section of the Society. Taking actual figures we know that the death-rate at the Medical College Hospital from cholera between 1895-1905 was approximately 60%. With treatment by normal salines in 1906 this mortality fell to 52%. On reverting to subcutaneous and other injections in 1907 it rose again to the same figure as in 1905.

From 1908-1909 with hypertonic salines injected into the veins it fell to 32·6. Since then with the injection of the hypertonic salines plus permanganates, chiefly K. M. No. 3 and CaM. No. 3, it fell to 23·3%. That is, in simple language, whereas fifteen years ago on an average out of 100 attacks about 40 people had a chance of recovery (and a very bad chance at that), to-day if the disease is taken in time 77 people out of the same number would probably recover. Quite recently in November 1911 in Palermo 60% of recoveries were obtained in severe collapse cases which had been treated according to Major Rogers' most recent methods, and after he left, the Italian doctors sent Major Rogers notes of 58 severe cases treated in the same way but with still earlier and more frequent injections, on the lines laid down as a result of his former Palermo experiences, with only 8 deaths, that is 15% of deaths, or 85% of recoveries. Major Megaw, who officiated for nine months for Major Rogers during the absence last year of the latter in Europe, also obtained 75% of recoveries by following the same methods. Are not these results wonderful? and are they not strong evidence of

the importance of the work done by one of the medical members of the Society ? We all hope that in the near future the results Major Rogers and those who follow in his footsteps obtain in this terrible disease will be even more striking.

The last tropical disease which I shall speak about is dysentery—an important group of diseases hitherto comprised under one name, but probably differing widely in their causation and in their pathology. Much work is going on in various parts of the world including India, and there are least two totally different pathological conditions found in India, each of which clinically may be described as a dysentery (i) produced by group of bacilli belonging to the same great class as typhoid fever and probably other bowel diseases—bacillary dysentery : this form does not give rise to liver abscess; (ii) due to a protozoal organism belonging to the amoebae several of which are pathogenic. Both forms are very common in India, but the important distinction is that the amoebic variety only is the one which is responsible for that very fatal tropical condition known as liver abscess.

This discovery has cleared up the long-standing controversy as to how far tropical liver abscess was dependent on dysentery. Both the liver complication and the dysentery are amenable to treatment with Ipecacuanha The work done in Calcutta during the last decade by Major Rogers and others has shown that these liver abscesses always contain living amoebæ of dysentry in their walls, but are otherwise free from all kinds of bacteria such as cause abscesses and boils. This has led to the successful adoption of a less radical and less drastic form of treatment than the former lengthy and exhausting drainage of these liver abscess cavities, i.e. the injection of a solution of Quinine into the abscess cavity. It is found to kill the amoebae.

Major Rogers has also successfully revived the older procedure (in vogue in India sixty-seventy years ago) of giving large doses of Ipecacuanha in threatened liver abscesses. A careful examination of the patient's blood by the microscope shows that the presuppurative stage can be detected. This treatment, at the General Hospital under Col. Pilgrim, has reduced the mortality to half of what it was formerly. A similar result has been brought about in the British Army. I can only mention the successful treatment of the bacillary form of dysentery by effective sera and vaccines—Forster's and other sera used successfully by Captain Gillet at Buxar.

I repeat that the work is great and the labourers are few, and some fall by the way ; but the harvest when it ripens will be great. There is every reason for the belief that the Class rooms and Research laboratories of the School of Tropical Medicine (which we hope will be established in Calcutta before many years are past) will attract a large number of devoted,

capable and earnest workers, anxious to grapple with the many problems of disease which lie at our doors waiting for solution. There is no more important field of work at the present time than this: it will not be solved by laboratory work alone. I have already, when speaking of food experiments, shown how difficult it is to draw correct inferences from this mode of work alone. It is only by the patient consideration of clinical and laboratory methods combined, such as can only be carried out in a well-equipped laboratory in intimate connection with a large hospital such as the Medical College Hospital in this city, that the unique advantages which Calcutta offers as a centre for tropical research will be fully realized, as I hope they will be in the near future.

The Americans have been only a few years in occupation of the Philippine Islands, and yet they have built reserach laboratories and given occupation to a far bigger army of scientific workers at Manilla than are to be found in any town of India. Khartoum, also a city of yesterday, is far ahead of Calcutta in this respect, and yet Calcutta has a far larger population and fine, better-equipped hospitals than Khartoum can have.

Ladies and Gentlemen, it grows late, and I know and feel that I have detained you far too long, and yet I have only touched the fringe of this fascinating subject. As I stated at the outset, I have been compelled to abbreviate and curtail much of the subject which I have endeavoured to place before you to-night. Not one evening—not twenty evenings—would suffice to handle the subject at all adequately, or to tell you one-fourth of what I should like to tell you. Whilst bearing in mind the Horatian maxim not to "overcharge your ears with a useless load of words," I feel that it has been most difficult to condense my remarks and yet be intelligible. Knowing that many, if not most, of my audience to-night are not medical men or medical women, I have tried to avoid being too technical. When it was suggested that I should choose as the subject of my address the recent advances in tropical diseases, and I agreed to attempt the task, I scarcely realized its magnitude. It was not a question of what to say, but rather what ought I to leave out! I have tried to show you that the advances of the past thirty years in the history, causation and pathology of tropical diseases have been great, that Indian observers have not only taken their fair share in this advance, but I am sure that they will, in the near future, take a still more prominent place in the van of progress. I have also, I hope, made it clear that much still remains to be done, not only in all the diseases I have mentioned, but also in many others which I have been obliged to leave out. In Medical Science as well as in other sciences that saying is true—"the old order changeth, yielding place to the new." In the nature of things this must be

so. I have tried to indicate to-night that if disease is attacked on scientific principles many hundreds of lives and consequently much money can be saved to the State every year. Such a course is best not only for the millionaire but also for the pauper, because the ultimate causes of disease are the same in both classes, rich and poor being almost equally liable to attack and also equally capable of transmitting disease germs from each to other. In the interests then of our common humanity, and to help in the evolution of a fitter and a healthier race, I appeal with confidence for your support and co-operation in this great cause—the cause of humanity. I will close my remarks with the words of two of our great English writers—"Knowledge is power: *Nam et ipsa scientia potestas est*" and "Let knowledge grow from more to more."

The President announced the election of Officers and Members of Council to be as follows:—

President.

Colonel G. F. A. Harris, C.S.I., M.D., F.R.C.P., I.M.S.

Vice-Presidents.

The Hon'ble Justice Sir Āśutoṣ Mukhopādhyāya, Kt., C.S.I., D.L., D.Sc., F.R.S.E.
G. Thibaut, Esq., C.I.E., Ph.D.
Mahāmahopādhyāya Haraprasād Śāstrī, C.I.E., M.A.
Lt.-Col. F. J. Drury, M.B., I.M.S.

Secretary and Treasurer.

General Secretary:—G. H. Tipper, Esq., M.A., F.G.S.
Treasurer:—D. Hooper, Esq., F.C.S.

Additional Secretaries.

Philological Secretary:—E. D. Ross, Esq., Ph.D.
Natural History Secretary:—I. H. Burkill, Esq., M.A., F.L.S.
Anthropological Secretary:—N. Annandale, Esq., D.Sc., C.M.Z.S., F.L.S.
Joint Philological Secretary:—Mahāmahopādhyāya Satiś Candra Vidyābhūṣaṇa, M.A., Ph.D.
Medical Secretary;—*Capt. J. D. Sandes, I.M.S.

Other Members of Council.

Lt.-Col. F. P. Maynard, M.D., F.R.C.S., D.P.H., I.M.S.
The Hon'ble Mr. Justice H. Holmwood, I.C.S.

E. P. Harrison, Esq., Ph.D.
Lt.-Col. D. C. Phillott.
H. H. Hayden, Esq., C.I.E., B.A., B.E., F.G.S.
W. K. Dods, Esq.
S. W. Kemp, Esq., B.A.

The President also announced the election of Fellows to be as follows :—

H. Beveridge, Esq., I.C.S. (retired).
J. C. Bose, Esq., C.S.I., C.I.E., M.A., D.Sc.
Prof. P. J. Brühl, F.C.S.
Capt. S. R. Christophers, I.M.S.
Charles Stewart Middlemiss, Esq., B.A., F.G.S.

The meeting was then closed.

The Adjourned Meeting of the Medical Section of the Society was held at the Society's rooms on Wednesday, the 14th February, 1912, at 9-30 p.m.

Lt.-Col. F. P. Maynard, I.M.S., in the chair.

The following members were present :—

Dr. U. N. Brahmachārī, Dr. G. C. Chatterji, Dr. K. K. Chatterji, Dr. C. H. Elmes, Capt. A. E. J. Lister, I.M.S., Capt. A. H. Maddox, I.M.S., Lt.-Col. A. H. Nott, I.M.S., Capt. H. B. Steen, I.M.S., Capt. J. D. Sandes, Honorary Secretary.

Visitors :—Captain Green Armytage, I.M.S., Dr. N. K. Sirkar, Dr. C. H. B. Thompson.

The minutes of the last meeting were read and confirmed.

The following papers were read :—

1. *On some new* Anophelenes fuligenosus *of Calcutta.—By* Dr. U. N. Brahmachārī, M.A., M.D., Ph.D.

2. *Therapeutic use of Tuberculin in Tuberculosis.—By* Dr. G. C. Chatterji, M.B.

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LIST OF MEMBERS

OF THE

ASIATIC SOCIETY OF BENGAL.

ON THE 31ST DECEMBER, 1911.

LIST OF OFFICERS AND MEMBERS OF COUNCIL OF THE ASIATIC SOCIETY OF BENGAL FOR THE YEAR 1911.

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Colonel G. F. A. Harris, C.S.I., M.D., F.R.C.P., I.M.S.

Vice-Presidents :

The Hon'ble Justice Sir Āsutosh Mukhopādhyāya, Kt., C.S.I., M.A., D.L., F.R.S.E.
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Mahāmahopādhyāya Haraprasād Śāstrī, C.I.E. ,M.A.
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Medical Secretary :—Major J. W. D. Megaw, I.M.S.

Other Members of Council.

The Hon. Dr. Abdulla al-Mamun Suhrawardy, M.A., LL.D.
Lieut.-Colonel F. P. Maynard, M.D., F.R.C.S., D.P.H., I.M.S.
The Hon. Mr. Justice H. Holmwood, I.C.S.
E. P. Harrison, Esq., Ph.D.
Lieut.-Colonel D. C. Phillott.
H. H. Hayden, Esq., C.I.E., B.A., F.G.S.
W. K. Dods, Esq.

LIST OF ORDINARY MEMBERS.

R. = Resident. N.R. = Non-Resident. A. = Absent. L.M. = Life Member. F.M. = Foreign Member.

An Asterisk is prefixed to the names of the Fellows of the Society.

N.B.—Members who have changed their residence since the list was drawn up are requested to give intimation of such a change to the Honorary General Secretary, in order that the necessary alteration may be made in the subsequent edition. Errors or omissions in the following list should also be communicated to the Honorary General Secretary.

Members who are about to leave India and do not intend to return are particularly requested to notify to the Honorary General Secretary whether it is their desire to continue Members of the Society; otherwise, in accordance with Rule 40 of the rules, their names will be removed from the list at the expiration of three years from the time of their leaving India.

Date of Election.		
1907 April 3.	N.R.	Abdul Ali, Abul Faiz Muhammad, M.A., Deputy Magistrate. *Netrokona, Mymensingh.*
1909 Mar. 3.	N.R.	Abdul Latif, Syed, Deputy Magistrate. *Barisal.*
1894 Sept. 27.	L.M.	Abdul Wali, Maulavi. 23, *European Asylum Lane, Calcutta.*
1909 July 7.	R.	Abdur Rahim, Maulavi. 51, *Taltolla Lane, Calcutta.*
1895 May 1.	R.	Abdus Salam, Maulavi, M.A., Presidency Magistrate. *Calcutta.*
1903 April 1.	N.R.	Abul Aâs, Maulavi Sayid, Raees and Zemindar. *Langar Toli, Bankipore.*
1904 Sept. 28.	N.R.	Ahmad Hasain Khan, Munshi. *Jhelum.*
1911 April 5.	N.R.	Ahmad Husain, Shaikh, *Khan Bahadur*, Rais of *Pargawan, Partabgarh, Dist. Oudh.*
1888 April 4.	R.	Ahmud, Shams-ul-Ulama Maulavi. 3, *Maulavi's Lane, Calcutta.*
1899 Jan. 4.	N.R.	Ali Hussain Khan, Nawab. *Lucknow.*
1903 Oct. 28.	R.	Allan, Alexander Smith, M.B. 3, *Esplanade, East, Calcutta.*
1893 Aug. 31.	N.R.	Anderson, Lieut.-Col. Adam Rivers Steele, B.A., M.B., D.P.H., C.M.Z.S., I.M.S. *Chittagong.*
1884 Sept. 3.	A.	Anderson, J. A. *Europe.*
1904 Sept. 28.	R.	*Annandale, Nelson, D.Sc., C.M.Z.S., Superintendent, Indian Museum. *Calcutta.*
1910 Apl. 6.	N.R.	Ascoli, Frank David, I.C.S. *Dacca.*
1909 May 5.	R.	Ashgar, A. A., Barrister-at-Law. 8, *European Asylum Lane, Calcutta.*

Date of Election.		
1911 May 3.	R.	Atkinson, Albert Charles. 11, *Loudon Street, Calcutta.*
1904 July 6.	N.R.	Aulad Hasan, Sayid, *Khan Bahadur*, Inspector of Registration. *Dacca.*
1909 May 5.	R.	Azad, Maulavi Abul-Kalam Mohyuddin Ahmad. 13, *McLeod Street, Calcutta.*
1870 Feb. 2.	L.M.	Baden-Powell, Baden Henry, M.A., C.I.E. *Ferlys Lodge, 29, Banbury Road, Oxford, England.*
1891 Mar. 4.	N.R.	Baillie, The Hon. Mr. Duncan Colvin, I.C.S., Member, Board of Revenue, North-West Provinces of Agra and Oudh. *Allahabad.*
1909 Feb. 3.	N.R.	Banerjee, Charu Deb, B.A., LL.B. *Allahabad.*
1910 Dec. 7.	N.R.	Banerji, Devendra Kumar. *Dacca College, Dacca.*
1905 Mar. 1.	R.	Banerjee, Muralidhar. *Sanskrit College, Calcutta.*
1907 Jan. 2.	R.	Banerji, Rakhal Das, M.A. 45/4, *Simla Street, Calcutta.*
1908 Mar. 4.	R.	Banerji, Satis Kumar. 45, *Baniatola Lane, Calcutta.*
1896 Mar. 4.	N.R.	Banerji, Satish Chandra, M.A., LL.D., Advocate, High Court. *Allahabad.*
1911 June 7.	N.R.	Barik, Ganesh Lall, *Zemindar, Chandchaura, Gaya.*
1869 Dec. 1.	L.M.	Barker, Robert Arnold, M.D., F.G.S. *Fairfield, Oxford Road, Reading, Berkshire, England.*
1885 Nov. 4.	R.	Barman, Damodar Das. 55, *Clive Street, Calcutta.*
1898 Mar. 2.	N.R.	Barnes, Herbert Charles, M.A., I.C.S., Magistrate and Collector. *Shillong.*
1908 Nov. 4.	N.R.	Barnes, James Hector, B.Sc., F.I.C., F.C.S., Principal, Punjab Agricultural College, and Agricultural Chemist, Punjab Govt. *Lyallpur, Punjab.*
1902 May 7.	R.	Bartlett, Edward William John. 4, *Esplanade, East, Calcutta.*
1894 Sep. 27.	R.	Basu, Nagendra Nath. 20, *Kantapuker Lane; Bagbazaar, Calcutta.*
1903 Feb. 4.	N.R.	Batra, Bhawani Das, *Rai Bahadur*, M.A., Revenue Minister, Jammu and Kashmir State. *Srinagar, Kashmir.*
1909 July 7.	N.R.	Bazuz, Rangnath Khunraj. *Girgaon, Bombay.*
1895 July 3.	L.M.	Beatson-Bell, The Hon. Mr. Nicholas Dodd, B.A., C.I.E., I.C.S. *Shillong.*
1907 Feb. 6.	N.R.	Bell, Charles Alfred, I.C.S. *Gangtok, Sikkim.*
1909 April 7.	N.R.	Bentley, Charles A., M.B., D.P.H. Special Sanitary Commissioner, *Shillong.*

Date of Election.		
1906 Nov. 7.	N.R.	Bergtheil, Cyril. *Sirseah, Mozufferpore.*
1876 Nov. 15.	F.M.	Beveridge, Henry, I.C.S. (retired). *Pitfold, Shottermill, Haslemere, Surrey, England.*
1893 May 3.	N.R.	Bhanj Deb, Maharaja Sri Ram Chandra, Chief of Maurbhanj. *Baripada P.O., Balasore.*
1908 Nov. 4.	N.R.	Bhattacharji, Bisvesvar, Deputy Magistrate and Deputy Collector. *Faridpur.*
1909 Aug. 4.	N.R.	Bhattacharjee, Jyotis Chandra, M.A., B.L. *Purneah.*
1910 April 6.	R.	Bhattacharyya, Ramakanta. 6/51, *Paddapuker Road, Calcutta.*
1909 July 7.	N.R.	Bhattacharjee, Shib Nath, M.B. *General Hospital, Rangoon.*
1911 April 5.	R.	Bion, H.S., B.Sc., F.G.S., Assistant Superintendent, Geological Survey of India. *Calcutta.*
1910 May 4.	N.R.	Bishop, T. H., M.R.C.S., L.R.C.S., D.P.H. *Paksey, Pabna Dist.*
1893 Feb. 1.	N.R.	Bodding, The Revd. P. O. *Dumka, Sonthal Parganas.*
1910 May 4.	F.M.	Bolton, William Ferrall. C/o Messrs. Grindlay & Co. 54, *Parliament Street, London.*
1909 July 7.	R.	Bonerji, Ratnakrishna Curran. 11, *Ballygunge Circular Road, Calcutta.*
1895 July 3.	N.R.	Bonham-Carter, The Hon. Mr. Norman, I.C.S. *Dacca.*
1898 Feb. 2.	R.	Bose, Amrita Lal, Dramatist. 9-2, *Ram Chandra Maitra's Lane, Calcutta.*
1908 June 3.	R.	Bose, Hira Lall, *Dewan Bahadur*, L.M.S. 25/2, *Mott's Lane, Calcutta.*
1895 Mar. 6.	R.	Bose, Jagadis Chandra, C.S.I., M.A., D.Sc., C.I.E. *Presidency College, Calcutta.*
1910 July 6.	N.R.	Botham, Arthur William, I.C.S. *Barisal.*
1911 Nov. 1.	N.R.	Boyle, Lieut. Cecil Alexander, 11th King Edward's Lancers, Cavalry Lines, The Kurram Valley Militia, Parachinar, Kurram Valley. *N.-W. F. P.*
1906 Sept. 19.	N.R.	Bradley-Birt, Francis Bradley, I.C.S. *Khulna.*
1908 Jan. 1.	R.	Brahmachari, Upendra Nath, M.A., M.D. 10, *Nimtola Ghat Street, Calcutta.*
1906 Nov. 7.	A.	Bramley, Percy. *Europe.*
1906 July 4.	R.	Brown, Lieut.-Col. Edwin Harold, M.D., I.M.S. (retired). 4, *Harington Street, Calcutta.*
1907 July 3.	R.	Brown, John Coggin, B.Sc., F.G.S., F.C.S., Assistant Superintendent, Geological Survey of India. *Calcutta.*
1909 Oct. 6.	R.	Brown, Percy, A.R.C.A. *Government School of Art, Calcutta.*
1905 Mar. 1.	A.	Brown, William Barclay, I.C.S. *Europe.*
1909 Oct. 6.	R.	Brühl, Paul Johannes. *Civil Engineering College, Sibpur, Howrah.*

Date of Election.		
1910. Feb. 2.	R.	Buchan, W. H., I.C.S. *United Service Club, Calcutta.*
1901 Sept. 25.	R.	Buchanan, Lieut.-Col. Walter James, I.M.S. *United Service Club, Calcutta.*
1887 May 4.	R.	Bural, Nobinchand, Solicitor. 10, *Old Post Office Street, Calcutta.*
1901 June 5.	R.	*Burkill, Isaac Henry, M.A., Reporter on Economic Products to the Government of India. *Calcutta.*
1896 Jan. 8.	N.R.	Burn, The Hon. Mr. Richard, I.C.S. *Allahabad.*
1900 May 2.	N.R.	Butcher, Flora, M.D. *Tanakpur, Naini Tal.*
1898 Sept. 30.	A.	Cable, Sir Ernest, Kt. *Europe.*
1906 Dec. 5.	R.	Caddy, Adrian, M.D. (Lond.), F.R.C.S. (Eng.), D.P.H., M.R.C.P.S. (Lond.). 2-2, *Harington Street, Calcutta.*
1907 Apl. 3.	R.	Calvert, Lieut.-Col. John Telfer, M.B., M.R.C.P., I.M.S. 14, *Russell Street, Calcutta.*
1907 Mar. 6.	L.M.	Cama, Camaji Byramji Navroji, B.A., LL.B., I.C.S. *Raipur.*
1901 Mar. 6.	N.R.	Campbell, William Edgar Marmaduke, I.C.S. *Lucknow.*
1895 July 3.	R.	Carlyle, The Hon. Sir Robert Warrand, K.C.S.I., C.I.E., I.C.S., Revenue and Agriculture and P.W.D. Member, Government of India. *Calcutta.*
1911 Feb. 1.	R.	Carnduff, Hon. Mr. Justice Herbert William Cameron, C.S.I., I.C.S. 5, *Hungerford St., Calcutta.*
1910 May 4.	A.	Carter, Capt. Robert Markham, I.M.S. *Europe.*
1905 May 3.	R.	Chakravarti, Dwarkanath, M.A., B.L., Vakil, High Court. *Calcutta.*
1890 June 4.	R.	*Chakravarti, Monmohan, M.A., B.L., Bengal Provincial Civil Service. 14, *Palmer's Bazaar Road, Balliaghatta, Calcutta.*
1909 Mar. 3.	R.	Chakravarti, Nilmani, M.A. *Presidency College, Calcutta.*
1905 July 5.	N.R.	Chakravarti, Vanamali. *Gauhati.*
1906 Jan. 3.	R.	Chapman, John Alexander, Librarian, Imperial Library. *Calcutta.*
1904 July 6.	A.	Charles, Albert Pendrill, B.A., I.C.S. *Europe.*
1908 Feb. 5.	R.	Chatterjee, Gopal Chandra, M.B. *Medical College, Calcutta.*
1911 June 7.	R.	Chatterjee, Karuna Kumar, F.R.C.S. 154, *Dharamtola St., Calcutta.*
1909 Mar. 3.	R.	Chatterjee, Manmatha Nath, M.B. 295/1, *Upper Circular Road, Calcutta.*
1907 Sept. 25.	R.	Chatterjee, Promode Prakas. 8, *Dixon Lane, Calcutta.*

Date of Election.		
1902 Aug. 27.	R.	Chaudhuri, the Hon. Mr. Justice Ashutosh, Judge, High Court. 47, *Old Ballygunge, Calcutta.*
1893 Sept. 28.	R.	Chaudhuri, Banawari Lala, B.Sc., Edin. 120, *Lower Circular Road, Calcutta.*
1911 Mar. 1.	N.R.	Chaudhuri, Charu Chandra, Zemindar, Sherpur Town, *Mymensingh Dist.*
1907 July 3.	R.	Christie, William Alexander Kynock, B.Sc., Ph.D. Chemist, Geological Survey of India, *Calcutta.*
1909 Nov. 3	N.R.	Christophers, Major Samuel Richmond, M.B., I.M.S. *Research Laboratory, Kasauli.*
1902 April 2.	R.	Chunder, Rajchunder, Attorney-at-Law. 2, *Old Post Office Street, Calcutta.*
1906 Nov. 7.	N.R.	Clarke, Geoffrey Roth, I.C.S. *Postmaster-General, Allahabad.*
1907 Dec. 4.	A.	Cohen, Rachel Nathaniel, M.B., F.R.C.S. *Europe.*
1906 July 4.	N.R	Connor, Captain Frank Powell, F.R.C.S. (Eng.), L.R.C.P. (Lond.), I.M.S. *Gaya.*
1910 July 6.	N.R.	Conyngham, Major G. P. Lenox, R.E. *Dehra Dun.*
1908 Nov. 4.	A.	Cook, Capt. Lewis, I.M.S. *Europe.*
1903 Aug. 26.	R.	Copleston, The Most Revd. Dr. Reginald Stephen, D.D. *Lord Bishop of Calcutta.*
1898 June 1.	F.M.	Cordier, Dr. Palmyr. 20, *Boulavard Gambetta,* 20, *Hanoi (Tonkin), French Indo-China.*
1907 July 3.	R.	Cotter, Gerald de Purcell, Assistant Superintendent, Geological Survey of India. *Calcutta.*
1908 Jan. 1.	R.	Crake, Dr. Herbert Milverton. 15, *Park Street, Calcutta.*
1901 June 5.	A.	Crawford, Lieut.-Col. Dirom Grey, I.M.S. *Europe.*
1876 Mar. 1.	F.M.	Crawfurd, James, B.A., I.C.S. (retired). *Thornwood, Uddington, Lanarkshire, Scotland.*
1887 Aug. 25.	R.	Criper, William Risdon, F.C.S., F.I.C., A.R.S.M. *Konnagar, E.I.R.*
1895 July 3.	R.	Cumming, The Hon. Mr. John Ghest, C.I.E., I.C.S. *Secy., Govt. of Bengal, Revenue and Genl. Dept., Calcutta.*
1873 Dec. 3.	F.M.	Dames, Mansel Longworth, I.C.S. (retired). *Algeria, Enfield, Middlesex, England.*
1901 Aug. 28.	N.R.	Das, Govinda. *Durgakund, Benares City.*
1896 Mar. 4.	R.	Das-Gupta, Jogendra Nath, B.A. (Oxon), Barrister-at-Law. *Hughli College, Chinsura.*
1879 April 7.	N.R.	Das, Ram Saran, *Rai Bahadur,* M.A., Manager, Oudh Commercial Bank, Ld. *Fyzabad.*
1910 Jan. 5.	R.	David, David A. 55, *Free School Street, Calcutta.*

Date of Election.		
1904 July 6.	R.	De, Brajendra Nath, M.A., I.C.S. (retired). 22, *Loudon Street, Calcutta.*
1895 Sept. 19.	N.R.	De, Kiran Chandra, B.A., I.C.S., Registrar of Co-operative Credit Societies, Eastern Bengal and Assam. *Shillong.*
1907 July 3.	N.R.	De, Mahendra Nath, M.A., B.S . *Habigunge.*
1906 Dec. 5.	A.	Deare, Lieut.-Col. Benjamin Hobbs, M.R.C.S. (Eng.), L.R.C.P. (Lond.), D.P.H. (Cantab), I.M.S. *Europe.*
1902 Mar. 5.	R.	Deb, Raja Binoy Krishna, *Bahadur.* 106-1, *Grey Street, Calcutta.*
1893 Aug. 30.	N.R.	Deb, Raja Saccidananda Tribhuban, Feudatory Chief of Bamra. *Deogarh, Bamra.*
1904 Sept. 28.	N.R.	DeCourcy, William Blennerhasset. *Silchar P.O., Cachar.*
1906 Dec. 5	N.R.	Dentith, Arthur William, I.C.S.* *Cooch Behar.*
1904 Jan. 6.	N.R.	Dev-Sharman, Gulab Shanker, F.T.S., M.R.A.S., Private Secretary to H.H. the Maharani Sahiba of Bettiah. *Allahabad.*
1901 June 5.	R.	Dey, Nundolal. *Chinsura.*
1910 Dec. 7	R.	Dharmapala, The Anagarika Hevavitarana, 46, *Beniapuker Lane, Calcutta.*
1910 May 4.	L M	Dhavle, Sankara Balaji, I.C.S. *Gulzerbagh.*
1907 Oct. 30.	N.R.	Dixit, Pandit Sri Ram, B.A., Secretary, Pratapgarh State. *Pratapgarh.*
1898 Jan. 5.	R.	Dods, William Kane. Agent, Hongkong and Shanghai Banking Corporation. *Calcutta.*
1906 Dec. 5.	N.R.	Donnan, Major William, Indian Army, Examiner of Ordnance Factory Accounts in India. *Lucknow.*
1909 Nov. 3.	A.	Donovan, Lieut.-Col. Charles, M.D., I.M.S. *Europe.*
1902 July 2.	R.	Doxey, Frederick. 9, *Queen's Park, Ballygunge, Calcutta.*
1909 Aug. 4.	N.R.	Drake-Brockman, Digby Livingstone, I.C.S. *Jhansi.*
1892 Sept. 22.	R.	Drury, Lieut.-Col. Francis James, I.M.S. *Medical College, Calcutta.*
1905 April 5.	N.R.	Dunnett, James Macdonald, I.C.S., Settlement Officer. *Ludhiana.*
1877 Aug. 30.	R.	Dutt, Kedar Nath. 1, *Sikdarpara Lane, Calcutta.*
1906 Nov. 7.	N.R.	Eadie, Capt. John Inglis. *97th Deccan Infantry, Jubbulpur.*
1907 Sept. 25.	A.	Eakins, Olin, M.D. *Europe.*
1900 July 4.	R.	Earle, The Hon. Sir Archdale, K.C.I.E., I.C.S. 12, *Loudon Street, Calcutta.*
1910 April 6.	N.R.	Ebden, Capt. F. T. P. *73rd Cavalry, Cannanore, S. India.*

Date of Election.		
1903 May 6.	N.R.	Edwards, Walter Noel. *Sootea P.O., Tezpur, Assam.*
1910 May 6.	N.R.	Edwards, Lieut. W. M., Indian Army. *Barian, Murree Hills.*
1910 April 6.	R.	Elmes, Dr. Cecil H. 25, *Park Street, Calcutta.*
1911 Nov. 1.	R.	Esch, V. J., Architect. 25, *Park St., Calcutta.*
1901 Mar. 6.	N.R.	Fergusson, John Carlyle, I.C.S. *Saharanpur.*
1904 Aug. 3.	R.	Fermor, Lewis Leigh, A.R.S.M., D.Sc., F.G.S., Superintendent, Geological Survey of India. *Calcutta.*
1908 Sept. 2.	N.R.	Fida Ali, Syed, *Arrah.*
1906 Dec. 5.	R.	Finck, Herman H. G., M.D., Surgeon to the Consulate-General for Germany. 19, *Camac Street, Calcutta.*
1906 Oct. 31.	N.R	Finlow, Robert Steel, Fibre Expert to the Govt. of Eastern Bengal and Assam. *Dacca.*
1907 Mar. 6.	N.R.	Firminger, Revd. Walter Kelly, M.A., B.D., F.R.G.S. *Shillong.*
1910 Sept. 7.	A.	Fortescue, Capt. Archer Irvine, R.A.M.C. *Europe.*
1906 Dec. 5.	A.	Foster, Captain Henry Bertram, I.M.S. *Europe.*
1910 April 6.	N.R.	Francis, Lieut. Reginald Frankland, Indian Army. *Jullunder, Punjab.*
1905 Jan. 4.	A.	Fraser, Sir Andrew Henderson Leith, K.C.S.I., M.A., LL.D., *Europe.*
1910 Nov. 2.	N.R.	Friend-Pereira, Joseph Ernest. *Goalpara, Assam.*
1903 Mar. 4.	R.	Gage, Major Andrew Thomas, M.A., M.B., B.Sc., F.L.S., I.M.S. *Royal Botanic Garden, Sibpur, Howrah.*
1893 Jan. 11.	N.R.	*Gait, Edward Albert, C.I.E., I.C.S. Census Commissoner for India, *Simla.*
1909 Mar. 3.	R.	Ganguli, Matilal, *Rai Bahadur. Currency Office, Calcutta.*
1909 Oct. 7.	R.	Ganguli, Ordhendhu Kumar. 12, *Ganguli's Lane, Calcutta.*
1908 Feb. 5.	N.R.	Gardner-Brown, John Gerald Gardner, M.A. Director, State Education, *Holkar College, Indore.*
1908 Jan. 1.	N.R.	Ghatak, Suresh Chandra, Depy. Magistrate and Depy. Collector. *Dacca.*
1905 May 3.	N.R.	Ghose, Hemendra Prasad, Zemindar and Litterateur. *Prasad Lodge, Changalbha P.O., Jessore.*
1889 Jan. 2.	R.	Ghose, Jogendra Chandra, M.A., B.L., Pleader, High Court. 25, *Hurrish Chunder Mookerjee Road, Bhowanipore, Calcutta.*
1909 Dec. 1.	A.	Ghose, Panchanan, M.A. *Europe.*
1905 July 5.	R.	Ghosh, Amulya Charan, *Vidyabhusana.* 66, *Manicktolla Street, Calcutta.*

Date of Election.		
1907 Oct. 30.	R.	Ghosh, Birendra Nath, L.M.S., Medical Practitioner. 109, *College Street, Calcutta.*
1902 Feb. 5.	R.	Ghosh, Girish Chandra, Dramatist. 13, *Bosepara Lane, Calcutta.*
1907 Mar. 6.	R.	Ghosh, Prafulla Chundra, M.A. 27/3, *Boitakhana Bazar Road, Calcutta.*
1869 Feb. 3.	N.R.	Ghosh, Pratapa Chandra, B.A. *Vindyachal.*
1902 June 4.	N.R.	Ghuznavi, Abu Ahmed. *Mymensingh.*
1909 April 7.	R.	Goenka, Briz Mohan. 24, *Banstolla Street, Calcutta.*
1907 Mar. 6.	R.	Goenka, Roormall. 57, *Burtolla Street, Calcutta.*
1905 July 5.	N.R.	Gossain, Hemchandra, Extra Assistant Commissioner. *Tezpur.*
1909 Jan. 6.	R.	Gourlay, William Robert, I.C.S. *Midnapur.*
1911 Feb. 1.	N.R.	Gratten, Major H. W., R.A.M.C. 6, *Dilkusha, Lucknow.*
1910 Sept. 7.	R.	Gravely, Frederic Henry, M.Sc., Asstt. Supdt., Indian Museum. *Calcutta.*
1905 May 3.	R.	Graves, Henry George, A.R.S.M. 2, *Bankshall Street, Calcutta.*
1910 Nov. 2.	N.R.	Graves-Law, H. D., I.C.S. *Gopalganj, Saran.*
1907 June 5.	R.	Green, Lieut.-Col. Charles Robert Mortimer, M.D., F.R.C.S., I.M.S. 6, *Harrington Street, Calcutta.*
1910 Mar. 2.	A.	Greig, Major Edward David Wilson, M.B., I.M.S. *Europe.*
1910 Sept. 7.	N.R.	Grey, Major William George, Indian Army. Asst. Political Agent, Loraly, *Quetta.*
1900 Dec. 5.	L.M.	Grieve, James Wyndham Alleyne, Deputy Conservator of Forests. *Darjeeling.*
1910 April 6	A.	Grubl, D. E. *Europe.*
1901 April 3.	N.R.	Guha, Abhaya Sankar, Extra Assistant Commissioner. *Nowgong.*
1898 June 1.	R.	Gupta, Bepin Behari. *Hooghly College, Chinsura.*
1911 Aug. 2	N.R.	Habiber Rahman, Depy. Supdt., Telegraph Department. *Allahabad.*
1901 Mar. 6.	N.R.	Habibur Rahman Khan, Maulavi, Raees. *Bhikanpur, Dt. Aligarh.*
1892 Jan. 6.	F.M.	Haig, Lieut.-Col. Wolseley, Indian Army. H. B. M.'s Consulate. *Kerman, Persia.*
1907 Aug. 7.	N.R.	Haines, Henry Haselfoot, F.C.S., F.L.S. *Nagpur.*
1909 Nov. 3.	A.	Hale, Alexander, M.I.C.E.I. *Europe.*
1908 June 3.	R.	Hallowes, Kenneth Alexander Knight, B.A A.R.S.M., F.G.S., Assistant Superintendent. Geological Survey of India. *Calcutta.*
1904 Sept. 28.	N.R.	Hallward, Norman Leslie. *Dacca.*
1906 Dec. 5.	N.R.	Harris, Lieut. G. *56th Infantry, F.F., Hangu.*

Date of Election.		
1906 July 4.	R.	Harris, Col. George Francis Angelo, C.S.I., M.D., F.R.C.P., I.M.S. Inspector-General of Civil Hospitals, Bengal. *Calcutta.*
1908 April 1.	R.	Harrison, Edward Philip, Ph.D. *Presidency College, Calcutta.*
1910 May 4.	N.R.	Harvey, Captain William Frederick, I.M.S. *Pasteur Institute, Kasauli.*
1897 Feb. 3.	R.	*Hayden, Henry Herbert, C.I.E., B.A., B.E., F.G.S., Director, Geological Survey of India. *Calcutta.*
1911 June 7.	R.	Hedayat Husain, M., Lecturer, Presidency College. 7-1, *Ramsankar Roy's Lane, Calcutta.*
1907 Nov. 6.	N.R.	Hepper, Captain Lionel Lees. *Royal Artillery, Katapahra, Darjeeling.*
1908 June 3.	A.	Herron, Alexander Macmillan, B.Sc. *Europe.*
1911 April 5.	N.R.	Hiralal, Rai Bahadur, B.A., M.R.A.S., Extra Asst. Commissioner. *Jubbulpore, C.P.*
1908 April 1.	N.R.	Hirst, Captain Frederick Christian. *Indian Army, Shillong.*
1906 Dec. 5.	F.M.	Hirst, Reginald John. C/o Messrs. H. S. King and Co. 9, *Pall Mall, London.*
1891 July 1.	F.M.	*Holland, Sir Thomas Henry, K.C.I.E., D.Sc., A.R.C.S., F.G.S., F.R.S. *Westwood, Alderley Edge, Cheshire, England.*
1908 July 1.	R.	Holmwood, The Hon. Mr. Justice Herbert, I.C.S., Judge, High Court. 22, *Theatre Road, Calcutta.*
1910 Jan. 5.	R.	Hope, Geoffroy D., B.Sc., Ph.D. *Indian Museum, Calcutta*
1898 Feb. 2.	R.	*Hooper, David, F.C.S. 1, *Sudder Street, Calcutta.*
1908 Feb. 5.	A.	Horniman, B. G. *Europe.*
1909 May 5.	N.R.	Horovitz, Josef, Ph.D. *M.A.O. College, Aligarh.*
1901 Dec. 4.	R.	Hossack, William Cardiff, M.D., D.P.H. 3, *Loudon Street, Calcutta.*
1873 Jan. 2.	L.M.	Houstoun, George L., F.G.S. *Johnstone Castle, Renfrewshire, Scotland.*
1906 May 2.	A.	Howell, Evelyn Berkeley, B.A., I.C.S. *Europe.*
1905 July 5.	N.R.	Humphries, Edgar de Montfort, B.A., I.C.S., Settlement Officer. *Pertabgarh.*
1908 June 3.	A	Hutchinson, C. M. *Europe.*
1911 Feb. 1.	R.	Insch, Jas. 89, *Park Street, Calcutta.*
1907 Aug. 7.	N.R.	Iyer, Valavanur Subramania, Extra. Asstt. Conservator of Forests, *Coimbatore.*
1906 Dec. 5.	N.R.	Jack, James Charles, I.C.S., Settlement Officer, Eastern Bengal and Assam. *Faridpur.*
1904 Jan. 6.	N.R.	Jackson, Victor Herbert, M.A. *Patna College, Bankipur.*

Date of Election.		
1908 Nov. 4.	N.R.	Jacob, Sydney Montague, I.C.S. *C/o Messrs. King King & Co., Bombay.*
1907 Dec. 4.	A.	James, Henry Rosher, M.A., Bengal Education Service. *Europe.*
1905 May 3.	R.	Jayaswal, Kashi Prasad, Bar.-at-Law, High Court. *Calcutta.*
1907 Sept. 25.	N.R.	Jenkins, Owen Francis, I.C.S., Offg. Joint Magistrate. *Budaon, U.P.*
1910 April 6.	R.	Johnston, J. C. R. *C/o Messrs. Grindlay & Co., Calcutta.*
1908 June 3.	R.	Jones, Herbert Cecil, A.R.S.M., A.R.C.S., F.G.S., Asst. Supdt., Geological Survey of India. *Calcutta.*
1911 Sept. 1.	N.R.	Juggarao, Sir Raja Ankitam Venkata. *Zemindar of Shermahamadpuram, Dabagardens, Vizagapatam.*
1911 Nov. 1.	N.R.	Kamaluddin Ahmed, Maulavi. *Supdt., Govt. Madrassa, Chittagong.*
1891 Feb. 4.	N.R.	Kapur, Raja Ban Behari, C.S.I. *Burdwan.*
1911 Jan. 1.	R.	Kaye, George Rusby. Registrar, Govt. of India, Dept. of Education. *Calcutta.*
1910 May 4.	R.	Kemp, Stanley W., B.A., Senior Assistant Superintendent, Indian Museum. *Calcutta.*
1882 Mar. 1.	N.R.	Kennedy, Pringle, M.A., B.L., Vakil. *Mozafferpur.*
1906 Aug. 1.	R.	Kennedy, William Willoughby, M.A., M.D., D.P.H., M.R.S.C., L.R.C.P. 36, *Chowringhee, Calcutta.*
1906 Sept. 19.	R.	Kesteven, Charles Henry, Solicitor to Government. 26, *Dalhousie Square, Calcutta.*
1909 Oct. 6.	R.	Khaliluddin Ahmed, Dr. 36, *Taltolla Lane, Calcutta.*
1909 April 7.	N.R.	Kilner, John Newport, M.B., L.R.C.S., L.R.C.P. *Adra, Manbhum.*
1908 Feb. 5.	A.	King, Captain George, M.B., I.M.S. *Europe.*
1910 Mar. 2.	R.	Kirkpatrick, W. *Chartered Bank Buildings, Calcutta.*
1904 May 4.	N.R.	Knox, Kenneth Neville, I.C.S. *Sitapur, Oudh.*
1911 Jan. 4.	N.R.	Koul, Anand. Supdt., Customs and Excise Department. *Srinagar, Kashmir.*
1896 July 1.	R.	Küchler, The Hon. Mr. George William, C.I.E., M.A., Director of Public Instruction, Bengal. *Calcutta.*
1910 Sept. 7.	N.R.	Kumar, Sahu Ram. *Thakurdware, Moradabad.*
1887 May 4.	L.M.	Lanman, Charles Rockwell, 9, *Farrar Street, Cambridge, Massachusetts, U.S. America.*
1889 Mar. 6.	L.M.	*La Touche, Thomas Henry Digges, B.A., F.G.S. *Alfriston Hills Road, Cambridge, England.*

Date of Election.		
1911 Feb. 1.	R.	Law, Narendra Nath. 96, *Amherst St., Calcutta.*
1909 Jan. 6.	R.	Leake, A. Martin, F.R.C.S., V.C. 14, *Garden Reach Road, Calcutta.*
1902 July 2.	N.R.	Leake, Henry Martin, M.A., F.L.S., Economic Botanist to the Government of United Provinces. *Cawnpur.*
1909 April 7.	N.R.	Leather, J. Walter, Ph.D., Imperial Agricultural Chemist. *Pusa.*
1889 Nov. 6.	R.	Lee, William A., F.R.M.S. 38, *Strand Road, Calcutta.*
1909 Mar. 3.	R.	LeQuesne, Rev. W. R. 16, *Elgin Road, Calcutta.*
1902 Oct. 29.	R.	Lewes, A. H. 25, *Mangoe Lane, Calcutta.*
1908 Feb. 5.	N.R.	Lindesay, Major Victor Edward Hugh, M.B., I.M.S. *Ranchi.*
1907 Dec. 4.	N.R.	Lindsay, James Hamilton, M.A., I.C.S. *Jessore.*
1910 Mar. 2.	R.	Lister, Capt. A. E. J., I.M.S. *Fort William, Calcutta.*
1889 Feb. 6.	N.R.	Little, Charles, M.A. *Patna College, Bankipur.*
1907 Dec. 4.	N.R.	Little, James Henry, Assistant Master, Nawab Bahadur's Institution. *Murshidabad.*
1907 Mar. 6.	A.	Lloyd, Captain Richard Ernest, M.B., B.Sc., I.M.S. *Europe.*
1909 Nov. 3.	A.	Löffler, Emmanuel Mano. *Europe.*
1911 May 3.	R	Lomax, C. E. 11, *London Street, Calcutta.*
1906 Oct. 31.	N.R.	Luard, Captain Charles Eckford, Indian Army, M.A. (Oxon). Resident, *Indore.*
1910 April 6.	N.R.	Ludwig, Eugen. *Gudur.*
1902 July 2.	R.	Luke, James, Journalist. 98, *Clive Street, Calcutta.*
1905 Aug. 2.	N.R.	Lukis, The Hon. Surgeon-General Sir Charles Pardey, K.C.S.I. C.S.I., M.B., F.R.C.S., I.M.S. Director-General, Indian Medical Service, *Simla.*
1870 April 7.	L.M.	Lyman, B. Smith. 708, *Locust Street, Philadelphia, U.S. America.*
1905 Aug. 2.	R.	McCay, Captain David, M.B., I.M.S. Presidency General Hospital, *Calcutta.*
1906 April 4.	A.	Mackenzie, Evan, Church of Scotland. *Europe.*
1893 Jan. 11.	L.M.	Maclagan, Hon. Mr. Edward Douglas, M.A., I.C.S. Secretary, Government of India, Revenue and Agriculture Department- *Calcutta.*
1911 April 5.	R.	Macmahon, Hon. Sir Arthur Henry, K.C.I.E., G.C.V.O., C.S.I., C.I.E., F.L.S., F.A.S., F.R.G.S., F.Z.S., F.R.A.S., F.S.A. Secretary, Government of India, Foreign Department *Calcutta.*

Date of Election.		
1899 Mar. 1.	N.R.	McMinn, Charles W., B.A., I.C.S. (retired). *Jath Tal, Bhim P.O., Kumaon.*
1891 Feb. 4.	R.	Macpherson, The Hon. Mr. Duncan James, M.A., C.I.E., I.C.S. *Chinsura.*
1911 Aug. 2.	N.R	Macrae, Capt. William, R.E., Executive Engineer, Indian State Railway Quarries, near Pakur, E.I.R., Loop.
1902 April 2.	R.	Maddox, Major Ralph Henry, I.M.S. 6/1, *Belvedere Lane, Alipur, Calcutta.*
1893 Jan. 11.	L.M.	Madho Rao Scindia, Colonel His Highness Maharajah Sir, *Alijah Bahadur*, G.C.S.I., G.C.V.O., A.D.C., LL.D., Maharajah of Gwalior. *Jai Bilas, Gwalior.*
1906 Dec. 5.	R.	Mahalanobis, Subodh Chandra, B.Sc., F.R.S.E., F.R.M.S. 210, *Cornwallis Street, Calcutta.*
1911 Mar. 1.	R.	Mahatap, Hon. Sir Bijoy Chand, K.C.S.I., Maharajadhiraj of Burdwan. 6, *Alipur Road, Calcutta.*
1898 Nov. 2.	N.R.	Maitra, Akshaya Kumar, B.A., B.L. *Rajshahi.*
1901 July 6.	F.M.	Malyon, Lieut. Frank Hailstone. 21*st Punjabis.* C/o Messrs. Thomas Cook & Sons, *Bayrout, Syria.*
1901 June 5.	N.R.	Mann, Harold Hart, D.Sc., M.Sc., F.L.S., Principal, Agricultural College. *Poona.*
1899 Aug. 30.	N.R.	Mannu Lal, Civil Surgeon. *Barabanki.*
1905 Dec. 6.	N.R.	Marsden, Edmund, B.A., F.R.G.S. C/o Messrs. Macmillan & Co., Publisher, *Hornby Road, Bombay.*
1902 May 7.	A	Marshall, John Hubert, M.A. *Europe.*
1911 June 7.	N.R.	Maturin, Lieut. Hugh Geoffrey. 61*st King George's Own Pioneers, United Service Club, Simla.*
1911 Aug. 2.	A.	Maulik, Samarendra. *Europe.*
1892 April 6.	R.	Maynard, Lieut.-Col. Frederic Pinsent, M.B., D.P.H., F.R.C.S., I.M.S., Professor of Ophthalmic Surgery, Medical College. *Calcutta.*
1905 Feb. 1.	A.	Megaw, Captain John Wallace Dick, M.B., I.M.S. *Europe.*
1886 Mar. 3.	L.M.	Mehta, Rustomjee Dhunjeebhoy, C.I.E. 55, *Canning Street, Calcutta.*
1911 Nov. 1.	R.	Meldrum, Rev. Niel. 2, *Russell St, Calcutta.*
1895 July 3.	N.R.	Melitus, Hon. Mr. Paul Gregory, C.I.E., I.C.S. *Shillong.*
1911 April 5.	N.R.	Meston, Hon. Sir J. S., K.C.S.I., C.S.I., C.S., Secretary, Government of India, Finance Department. *Simla.*
1884 Nov. 5	R.	Middlemiss, Charles Stewart, B.A., F.G.S., Superintendent, Geological Survey of India. *Calcutta.*

Date of Election.		
1905 Dec. 6.	R.	Midhut Mohamed Hossain Khan. 8, *Golam Sobhan's Lane, Calcutta.*
1884 Sept. 3.	R.	Miles, William Harry. 7, *Church Lane, Calcutta.*
1904 April 6.	A.	Miller, Sir John Ontario, C.S.I., I.C.S. *Europe.*
1909 July 7.	R.	Milne, William Stanley, I.C.S. Calcutta Club, *Calcutta.*
1906 Mar. 7.	N.R.	Milsted, Walter Percy Spencer. *Boys' High School, Allahabad.*
1911 July 5.	N.R.	Misra, Shyam Behari, B.A., I.C.S. Revenue Member, Council of Regency. *Jodhpur.*
1897 Jan. 6.	N.R.	Misra, Tulsi Ram, M.A., Prof., Gurukula Academy. *Hardwar.*
1906 June 6.	R.	Mitra, Kumar Manmatha Nath. 34, *Shampukur Street, Calcutta.*
1910 July 6.	R.	Mohapatra, Srikrishna. 10/1, *St. James's Square.*
1908 Mar. 4.	R.	Moitry, Manmatho Nath, Landholder. *Serampore.*
1908 Mar. 4.	A.	Mollison, James. *Europe.*
1901 Aug. 7.	N.R.	Molony, Edmund Alexander, I.C.S. *Gorakhpur.*
1895 July 3.	N.R.	Monohan, Francis John, I.C.S., Commissioner, Assam Valley District. *Shillong.*
1910 Feb. 2.	R.	Monohar Lal, M.A. *Barrackpore.*
1906 Dec. 5.	N.R.	More, Lieut. James Carmichael. 51*st Sikhs F.F., Bannu.*
1906 Dec. 5.	N.R.	Morton, Captain Sidney. *24th Punjabis, Inspector of Signalling, Imperial Service Troops, Meerut.*
1908 Dec. 2.	R.	Moses, Capt. Owen St. John, M.D., F.R.C.S., I.M.S., Resident Physician, Medical College, *Calcutta.*
1909 Mar. 3	R.	Mukherjee, Brajalal, M.A. 9, *Old Post Office Street, Calcutta.*
1909 Jan. 6.	R.	Mukherjee, Govinda Lall. 9, *Old Post Office Street, Calcutta.*
1899 Sept. 29.	R.	Mukherjee, Jotindra Nath, B.A., Solicitor. 3, *Old Post Office Street, Calcutta.*
1911 Feb. 1.	R.	Mukherjee, Manmathanath. Sub-Divisional Officer, Uluberia. *Howrah.*
1900 May 2.	R.	Mukherjee, Phani Bhusan, B.Sc. 57, *Jhowtola Road, Ballygunge, Calcutta.*
1910 June 1.	R.	Mukherjee, Pramatha Nath, M.A. 9, *St. James's Square, Calcutta.*
1898 May 4.	R.	Mukherjee, Sir Rajendra Nath, K.C.I.E. 7, *Harington Street, Calcutta.*
1894 Aug. 30.	R.	Mukherjee, Sibnarayan. *Uttarpara, Bally.*
1886 May 5	R.	*Mukhopadhyaya, The Hon'ble Justice Sir Asutosh, Kt., C.S.I., M.A., D.L., F.R.A.S., F.R.S.E., Judge, High Court. *Calcutta.*

Date of Election.		
1908 Feb. 5.	R.	Mukhopadhyaya, Girindra Nath, B.A., M.B. 80, *Russa Road, North, Bhowanipur, Calcutta.*
1892 Dec. 7.	R.	Mukhopadhyaya, Panchanan. 45, *Bechoo Chatterji's Street, Calcutta.*
1909 Mar. 3.	R.	Mullick, Indu Madhab, M.A., M.D. 70, *Harrison Road, Calcutta.*
1901 April 3.	R.	Mullick, Pramatha Nath, Zemindar. 7, *Prasonno Kumar Tagore's Street, Calcutta.*
1906 July 4.	A	Mulvany, Major John, I.M.S. *Europe.*
1906 Dec. 5.	N R.	Murphy, Captain Charles Cecil Rowe, 30*th Punjabis, Jhansi.*
1906 Dec. 5.	N.R.	Murray, Captain John George Patrick, I.M.S. *Cuttack.*
1910 Nov. 2.	A.	Murray, William Alfred, B.A. (Cantab), M.B. *Europe.*
1911 Sept. 1.	N.R	Murtaza Hosein Khan, Nawab, Vakil and Zeminder, Katra abu Torabkhan. *Lucknow.*
1908 Sept. 23.	N.R.	Muzaffur Ali Khan Bahadur, Syed, Zeminder and Rais. *Jausath, Dist. Muzaffarnagar.*
1906 Mar. 7.	R.	Nahar, Puran Chand. 28, *Harrison Road, Calcutta.*
1908 Sept. 23.	N.R.	Nande, Lala Jyotiprakas, Zemindar. *Burdwan.*
1907 Jan. 2.	N.R.	Nasir Ali, Khan Bahadur, Mir, Superintendent, North India Salt Revenue. *Farrashkhana, Delhi.*
1907 Jan. 2.	N.R.	Nasir Hosein Khan, S., Landholder. *Patna City.*
1904 Dec. 7.	A.	Nathan, Robert, C.S.I., I.C.S. *Europe.*
1890 Feb. 5.	N.R.	Nesfield, Capt. Vincent Blumhardt, F.R.C.S., L.R.C.P., I.M.S. Sanitary Commissioner. *Agra.*
1901 Mar. 6.	N.R.	Nevill, Henry Rivers, I.C.S., Editor, District Gazetteers, United Provinces. *Nainital.*
1910 May 4.	R	Newman, Major Ernest Alan Robert, I.M.S. *Campbell Medical Hospital, Calcutta.*
1889 Aug. 29.	L.M.	Nimmo, John Duncan. *C/o Messrs. Walter Duncan & Co.,* 137, *West George Street, Glasgow.*
1894 June 6.	N.R.	Nomani, Shams-ul-Ulama Maulavi Shibli. *Lucknow.*
1906 Dec. 5.	N.R.	Norman, Henry Campbell, M.A. *Queen's College, Benares.*
1908 Feb. 5.	R.	Nott, Lieut.-Col. Arthur Holbrook, M.D., I.M.S. *Howrah.*
1900 Dec. 5.	F.M.	O'Connor, Major William Frederick Travers, C.I.E., Royal Artillery. *H. B. M.'s Consulate-General, Meshed, Persia.*

Date of Election.		
1906 Dec. 5.	R.	O'Kinealy, Lieut.-Col. Frederick, M.R.C.S. (Eng.), L.R.C.P. (Lond.), I.M.S. *Govt. House, Calcutta.*
1909 Jan. 6.	R.	Oldham, The Hon. Mr. Charles Evelyn Arbuthnot William, I.C.S. 22, *Theatre Road, Calcutta.*
1905 May 3.	N.R.	Ollenbach, Alfred James, B.A., I.C.S. *Cordite Factory, Aruvankadu P.O., Nilgiris, S. India.*
1905 Nov. 1.	R.	O'Malley, Lewis Sydney Steward, B.A., I.C.S. *United Service Club, Calcutta.*
1906 Aug. 1.	A.	Osburn, Captain Arthur C., M.R.C.S., L.R.C.P. (Lond.), R.A.M.C. *Europe.*
1908 Aug. 5.	N.R.	Owens, Capt. Terence Francis, I.M.S., Chemical Examiner to the Government of Burma, *Rangoon.*
1909 April 7.	N.R.	Ozzard, Lieut.-Col. Fairlie Russell, I.M.S. *Ahmadabad.*
1907 July 3.	R.	Page, William Walter Keightley, Solicitor. 10, *Old Post Office Street, Calcutta.*
1901 Jan. 2.	N.R.	Pande, Ramavatar, B.A., I.C.S., District Judge. *Azimgarh.*
1880 Aug. 4.	L.M.	Pandia, Pandit Mohanlall Vishnulall, F.T.S. *Muttra.*
1907 Feb. 6.	R.	Panioty, John Emanuel, L.R.C.P. (Lond.), L.R.C.P. & S. (Edin.). 19, *Royd Street, Calcutta.*
1901 Aug. 28.	N.R.	Panton, Edward Brooks Henderson, B.A., I.C.S., District and Sessions Judge. *Burdwan.*
1904 Aug. 3.	N.R.	Parasnis, Dattatraya Balwant. *Satara.*
1910 April 6.	N.R.	Patuck, Pestonji Sorabji, I.C.S. *Wardha.*
1899 Aug. 2.	R.	Peake, Charles William, M.A., Meteorological Reporter to the Government of Bengal. *Calcutta.*
1906 Dec. 5.	A.	Peart, Captain Charles Lubé. 106*th Hazara Pioneers. Europe.*
1888 June 6.	L.M.	Pennell, Aubray Percival, B.A., Barrister-at-Law. *Rangoon.*
1877 Aug. 1	N.R.	Peters, Lieut.-Col. Charles Thomas, M.B. I.M.S. (retired). *Dinajpur.*
1907 Feb. 6	N.R.	Petrie, David, Criminal Intelligence Office, *Simla.*
1906 April 4.	R.	Petrocochino, Leonidar. 231, *Lower Circular Road, Calcutta.*
1889 Nov. 6.	L.M.	*Phillott, Lieut.-Colonel Douglas Craven. *Indian Army.* Secretary and Member, Board of Examiners, 1, *Council House Street, Calcutta.*
1904 June 1.	R.	Pilgrim, Guy Ellcock, D.Sc., F.G.S., Assistant Superintendent, Geological Survey of India. *Calcutta.*

Date of Election.		
1908 Jan. 1.	R.	Pilgrim, Lieut.-Col. Herbert Wilson, M.B., F.R.C.S., I.M.S. *Presidency General Hospital, Calcutta.*
1904 Mar. 4.	A.	Pim, Arthur W., I.C.S. *Europe.*
1910 Aug. 3.	R.	Podamraj. 9, *Joggomohan Mullick's Lane, Calcutta.*
1910 Feb. 2.	N.R.	Poplai, Sri Ram. *Muzang Road, Lahore.*
1910 Sept. 7.	N.R.	Preston, Eyre Loftus. Inspector of Schools, Patna Division, *Bankipur.*
1906 Aug. 1.	N.R	Price, Charles Stanley. *Victoria Boys' School, Kurseong.*
1907 Jan. 2.	N.R.	Pulley, Lieut. Henry Cuthbert. 12*th Pioneers, Jhansi.*
1908 Mar. 4.	A.	Quinlan, Dr. D. *Europe.*
1910 Dec. 7.	N.R.	Radha Krishna, *Banker, Chauk, Patna City.*
1880 April 7.	N.R.	Rai, Bepin Chandra. *Giridih, Chota Nagpur.*
1895 Aug. 29.	N.R.	Rai Chaudhuri, Jatindranath, M.A., B.L., Zemindar. *Taki, Jessore.*
1908 Feb. 5.	N.R.	Randle, Herbert Neil, B.A. *Queen's College, Benares.*
1908 July 1.	N.R.	Ranganathasvami, S. P. V., *Aryavaraguru, Arshya Library, Vizagapatam.*
1905 Jan. 4.	A.	Rankin, James Thomas, I.C.S. *Europe.*
1907 Aug. 7.	N.R.	Ranking, Lieut. James, Civil Lines, *Meerut, U.P.*
1911 May 3.	N.R.	Rao, T. A. Gopinath, M.A., Supdt. of Archaeology, *Trivandrum.*
1904 Mar. 4.	F.M.	Rapson, E. J. 8, *Mortimer Road, Cambridge.*
1890 Mar. 5.	R.	*Ray, Prafulla Chandra, D.Sc., Professor, Presidency College. *Calcutta.*
1887 May 4.	R.	Ray, Prasanna Kumar D.Sc. (Lond. and Edin.). 7, *Ballygunge Circular Road, Calcutta.*
1905 May 3.	R.	Richardson, Thomas William, I.C.S., Dist. and Sess. Judge, 24-Pargs. *Calcutta.*
1908 Sept. 2	R.	Ridsdale, Rev. Arthur Cyril. *The Parsonage, Howrah.*
1908 Feb. 5.	F.M.	Rigo-de-Righie, Alceste Carlo. *C/o* Messrs. Comabé Eckford & Co., Chefoo, Shantung Prov. *North China.*
1910 April 6.	A.	Robertson, A. White, L.R.C.P. *Europe.*
1907 Feb. 6.	A.	Robertson, Major George Alan. 15*th Lancers. Europe.*
1903 Mar. 4.	N.R.	Rogers, Charles Gilbert, F.L.S., F.C.H., Forest Department. *Port Blair, Andamans.*
1900 April 4.	R.	*Rogers, Major Leonard, C.I.E., M.D., B.S., F.R.C.P., F.R.C.S., I.M.S. *Medical College, Calcutta.*
1900 Aug. 29.	N.R.	Rose, Horace Arthur, I.C.S., Superintendent, Gazetteer Revision, Punjab. *Ludhiana.*

Date of Election.		
1901 Dec. 4.	R.	*Ross, Edward Denison, Ph.D., Assistant Secretary, Government of India, Dept. of Education, Books Branch. *Calcutta.*
1910 Aug. 3.	N.R.	Routh, Major G.M., Royal Artillery. *Rangoon.*
1889 June 5.	N.R.	Roy, Maharaja Girjanath. *Dinagepore.*
1903 July 1.	L.M.	Roy, Maharaja Jagadindranath, *Bahadur.* 6, *Lansdowne Road, Calcutta.*
1910 Sept. 7.	N.R.	Roy, Kumar Sarat Kumar. *Dayarampur, Rajshahi.*
1909 Nov. 3.	N.R.	Roychaudhury, Mrityunjoy. *Shyampur P.O., Rungpur.*
1908 June 3.	N.R.	Roychaudhury, Surendra Chandra, Zemindar. *Koondi, Rungpur.*
1906 Feb. 7.	N.R.	Russell, Charles, M.A. *Patna College, Bankipur.*
1908 Feb. 5.	N.R.	Russell, Robert Vam, I.C.S., Supdt. of Gazetteer and Ethnography. *Mandla, C.P.*
1911 Nov. 1	N.R.	Sahui, Dayaram, M.A., Curator, Provincial Museum, *Lucknow.*
1896 Aug. 27.	A.	Samman, Herbert Frederick, I.C.S. *Dy. Commissioner, Manbhum.*
1910 May 4.	R.	Sandes, Capt. J. D., I.M.S. *Medical College, Calcutta.*
1906 June 6.	N.R.	Sanial, Surendra Prasad, M.A., F.C.S., Private Secretary to Raja Bahadur. *Majhauli.*
1899 June 7.	N.R.	Sarkar, Chandra Kumar. *Kawkanik, Moulmein.*
1898 Mar. 2.	N.R.	Sarkar, Jadunath. *Patna College, Bankipur.*
1909 Mar. 3.	R.	Sarvadhikari, The Hon. Mr. Deva Prasad, M.A., B.L. 13, *Jeliapara Lane, Calcutta.*
1911 Jan. 4.	R.	Sarvadhikari, Dr. Suresh Prasad, 79-1, *Amherst St., Calcutta.*
1902 Mar. 5.	R.	Sastri, Rajendra Chandra, *Rai Bahadur*, M.A., Bengali Translator to the Government of Bengal. *Calcutta.*
1902 Feb. 5.	R.	Schulten, Joseph Henry Charles, Ph.D. 4, *Pollock Street, Calcutta.*
1900 Dec. 5.	N.R.	Schwaiger, Imre George, Expert in Indian Art. *Kashmir Gate, Delhi.*
1908 July 1.	N.R.	Seal, Brojendra Nath, M.A. *Victoria College, Cooch Behar.*
1911 June 7.	N.R.	Seconde, Lieut. Emile Charles. 16th *Rajputs, Bareilly, U.P.*
1906 Feb. 7.	R.	Sen, Girindra Kumar. 303, *Bowbazaar Street, Calcutta.*
1902 May 7.	R.	Sen, Jogendra Nath, *Vidyabhusana*, M.A. 31, *Prasanna Kumar Tagore's Street, Calcutta.*
1905 Jan. 4.	R.	Sen, Sukumar. 220, *Lower Circular Road, Calcutta.*
1897 Dec. 1.	R.	Seth, Mesrovb J. 11, *Wellesley Square, Calcutta.*

Date of Election.		
1911 July 5.	R	Sewell, Capt. Robert Beresford Seymour, I.M.S. *Indian Museum, Calcutta.*
1907 Aug. 7.	N.R.	Shah Munir Alam, B.A., LL.B. *Mainpura, Ghazipore.*
1909 Jan. 6.	R.	Sharfuddin, The Hon. Mr. Justice Syed, Judge, High Court. 15, *Loudon Street, Calcutta.*
1906 Dec. 5.	N.R.	Sharp, Henry, C.I.E., M.A., Depy. Secy., Govt. of India, Dept. of Education. *Simla.*
1885 Feb. 4.	R.	*Shastri, Mahamahopadhyaya, Haraprasad, C.I.E., M.A. 12/1/4, *Pataldanga Street, Calcutta.*
1902 Dec. 3.	N.R.	Shastri, Harnarain Goswami. *Hindu College, Delhi.*
1909 Jan. 6.	N.R.	Shirreff, Alexander Grierson, B.A., I.C.S. *Gonda, U.P.*
1908 Mar. 4.	R.	Shujaat Ali, Nasurul Mamalik Mirza, *Khan Bahadur*, Acting Consul-General for Persia. 10, *Hungerford Street, Calcutta.*
1902 Feb. 5.	N.R.	Shyam Lal, Lala, M.A., LL.B., Deputy Collector. *Naimadri, Agra.*
1899 May 3.	N.R.	Silberrad, Charles Arthur, B.A., B.Sc., I.C.S. *Jhansi.*
1909 April 7.	F.M.	Simpson, George Clarke, D.Sc. *C/o Delhi and London Bank, Simla.*
1903 Aug. 26.	N.R.	Simpson, John Hope, I.C.S., Registrar of Co-operative Credit Societies, Upper Provinces. *Gorakhpur.*
1901 Aug. 7.	R.	Singh, Chandra Narayan, *Rai Bahadur*. 82, *Lansdowne Road, Calcutta.*
1904 Mar. 4.	N.R.	Singh, Kumar Kamlanand. *Srinagar Raj, Srinagar P.O., Purneah District.*
1894 July 4.	N.R.	Singh, Raja Kushal Pal, M.A. *Narki.*
1895 Aug. 29.	R.	Singh, Lachmi Narayan, M.A., B.L., Pleader, High Court. *Calcutta.*
1893 Mar. 1.	N.R.	Singh, Maharaja Kumara Sirdar Bharat, I.C.S. (retired). *Allahabad.*
1892 Mar. 2.	L.M.	Singh, Raja Ooday Pratab, C.S.I., Raja of Bhinga. *Bhinga.*
1899 Aug. 29.	N.R.	Singh, H.H. The Maharaja Sir Prabhu Narain, *Bahadur*, G.C.I.E., Maharaja of Benares. *Bamnagar Fort, Benares.*
1909 April 7.	N.R.	Singh, Raja Prithwipal. Talukdar of Surajpur, District Barabanki. *Oudh.*
1889 Nov. 6.	N.R.	Singh, H.H. The Hon. Maharaja Rameshwara, *Bahadur*, K.C.I.E. *Durbhanga.*
1894 Feb. 7.	N.R.	Singh, H.H. The Raja Bahadur Vishwa Nath. *Chhatturpur, Bundelkhund.*
1897 Jan. 6.	R.	Sircar, Amrita Lal, F.C.S., L.M.S. 51, *Sankaritolla Lane, Calcutta.*

Date of Election.		
1898 Aug. 3.	N.R.	Sita Ram, B.A., Depy. Magistrate. *Allahabad.*
1909 July 7.	A.	Smith, Capt. H. Emslie, I.M.S. *Europe.*
1907 Dec. 4.	N.R.	Smith, Lieut.-Col. John Manners, Indian Army, V.C., C.I.E. *Resident, Nepal.*
1911 Mar. 1.	R.	Smith, Major O. A. 27th *Punjabis, Alipore.*
1907 Mar. 6.	N.R.	Sofiulla Saifududdin Ahmed, Maulavi, Inspector of Excise. *Silchar.*
1909 Feb. 3.	F.M.	Sommerfeldt, Prof. E. *The University, Tübingen, Germany.*
1901 Dec. 4.	N.R.	Spooner, David Brainerd, Ph.D., Archæological Surveyor. *Bankipore.*
1909 April 7.	F.M.	Stanley, Sir John, Kt., K.C.I.E., K.C. 19, *Gledlow Gardens, South Kensington, London.*
1904 Sept. 28.	N.R.	Stapleton, Henry Ernest, B.A., B.Sc., *Dacca.*
1901 Mar. 6.	A.	Stebbing, Edward Percy, F.E.S., F.Z.S. *Europe.*
1908 Dec. 2.	R	Steen, Capt. Hugh Barkley, M.B., I.M.S., *Presidency General Hospital, Calcutta.*
1904 June 1.	R	Stephen, The Hon'ble Mr. Justice Harry Lushington, Judge, High Court. *Calcutta.*
1899 Aug. 30.	R.	Stephen, St. John, B.A., LL.B., Barrister-at-Law. 7, *Russell Street, Calcutta*
1900 Aug. 29.	N.R.	Stephenson, Major John, I.M.S. *Lahore.*
1907 Dec. 4.	R.	Stevens, Major C. R., I.M.S. *Medical College, Calcutta.*
1907 June 5.	N.R.	Stewart, Capt. Francis Hugh, I.M.S., *Bombay.*
1907 April 3.	N.R.	Stewart, Captain Hugh, Indian Army. *Loraly, Baluchistan.*
1906 Dec. 5.	F.M.	Stokes, Captain Claude Bayfield, Military Attaché. *Teheran, Persia.*
1911 Feb. 1.	R.	Stonebridge, Arthur W., Chief Engineer, Messrs. Burn & Co., 7, *Hastings St., Calcutta.*
1907 June 5.	R.	Suhrawardy, The Hon. Dr. Abdulla al-Mamun, M.A., D.Litt., LL.D., Barrister-at-Law. 34, *Elliott Road, Calcutta.*
1907 June 5.	N.R.	Swinhoe, Rodway Charles John, Solicitor. *Mandalay, Upper Burma.*
1909 Jan. 6.	R.	Tagore, Kshitindranath, B.A. *Howrah.*
1898 April 6.	R.	Tagore, Hon. Maharaja Sir Prodyat Coomar, *Bahadur*, Kt. *Pathuriaghatta, Calcutta.*
1906 Mar. 7.	R.	Tagore, Kumar Shyama Kumar, Zemindar. 65, *Pathuriaghutta Street, Calcutta.*
1904 July 6.	N.R.	Talbot, Walter Stanley, I.C.S., Revenue Commissioner. *Srinagar, Kashmir.*
1910 Aug 3.	N.R	Tancock, Capt. Alexander Charles. 31*st Punjabis, Nowshera.*
1893 Aug. 31.	N.R.	Tate, George Passman, Assistant Superintendent, Survey of India. *Dehra Dun.*
1909 Jan. 6.	N.R.	Taylor, Charles Somers, B.Sc. *Bhagalpur.*
1907 June 5.	A.	Taylor, Dr. G. Orissa. *Europe.*

Date of Election.		
1910 April 6.	N.R.	Teesdale, Capt. Frank Robinson. *25th Cavalry F.F., Risalpur.*
1906 Dec. 5.	N.R.	Tek Chand, Dewan, B.A., M.R.A.S., I.C.S., Deputy Commissioner. *Ludhiana.*
1878 June 5.	N.R.	Temple, Colonel Sir Richard Carnac, Bart., Indian Army, C.I.E. *C/o Messrs. King, King & Co., Bombay.*
1904 May 4.	N.R.	Thanawala, Framjee Jamasjee. 90, *Cawasjee Patel Street, Fort, Bombay.*
1875 June 2.	R.	*Thibaut, G., Ph.D., C.I.E., Registrar, Calcutta University. *Calcutta.*
1911 Mar. 1.	F.M.	Thomas, F. W., Librarian, *India Office, London.*
1909 Aug. 4.	N.R.	Thompson, John Perronet, M.A., I.C.S. *Upper Mall, Lahore.*
1908 Nov. 4.	N.R	Thornely, Capt. Michael Harris, I.M.S. *Arrah.*
1898 Nov. 2.	R.	Thornton, Edward, F.R.I.B.A. 6, *Clive Street, Calcutta.*
1911 Mar. 1.	R.	Thorpe, Godfrey Francis. Bengal Pilot Service. 2-7, *Lansdowne Road, Calcutta.*
1911 July 5.	R.	Thurston, Capt. Edward Owen, I.M.S., B.S., F.R.C.S. *Middleton Street, Calcutta.*
1904 June 1.	R.	Tipper, George Howlett, M.A., F.G.S., Assistant Superintendent, Geological Survey of India. *Calcutta.*
1910 Dec. 1.	R.	Toth, Eugene. 13, *Sudder Street, Calcutta.*
1910 Dec. 7.	N.R.	Towle, J. H., Principal, M.A.O. College, *Aligarh.*
1907 Feb. 6.	N.R.	*Travers, Morris William, D.Sc., F.R.S., Director of Indian Institute of Science. *Bangalore.*
1861 June 5.	L.M.	Tremlett, James Dyer, M.A., I.C.S. (retired). *Dedham, Essex, England.*
1905 Aug. 2.	N.R.	Urwin, Captain John Johnson, M.B., I.M.S. *Motihari.*
1900 Aug. 29.	A.	Vaughan, Lieut.-Col. Joseph Charles Stoelke, I.M.S. *Europe.*
1890 Feb. 5.	N.R.	*Venis, Arthur, C.I.E., M.A. *Benares.*
1909 May 5.	N.R.	Venkayya, V., Govt. Epigraphist in India. *Simla.*
1902 June 4.	R.	*Vidyabhusana, Mahamahopadhyaya Satis Chandra, M.A., Ph.D. 26/1, *Kanay Lal Dhur's Lane, Calcutta.*
1901 Mar. 6.	N.R.	Vogel, Jean Philippe, Litt.D. Offg. Director General of Archaeology in India, *Simla.*
1894 Sept. 27.	L.M.	Vost, Lieut.-Col. William, I.M.S., Civil Surgeon. *Saharanpore.*
1902 Oct. 29.	A.	Vredenburg, Ernest, B.L., B.Sc., A.R.S.M., A.R.C.S., F.G.S. *Europe.*

Date of Election.		
1909 Jan. 6.	F.M.	*Walker, Gilbert Thomas, D.Sc., F.R.S. 11, *Heathfield Road, Seaford, Sussex, England.*
1907 July 3.	R.	Walker, Harold, A.R.C.S., F.G.S., A.M.Inst.M. Assistant Superintendent, Geological Survey of India. *Calcutta.*
1900 Jan. 19.	A.	Wallace, David Robb. *Europe.*
1901 June 5.	N.R.	Walsh, Ernest Herbert Cooper, C.S.I., I.C.S., Commissioner, Bhagalpur Division. *Bhagalpur.*
1900 April 4	N.R.	Walton, Captain Herbert James, M.B., F.R.C.S., I.M.S. *C/o Messrs. King, Hamilton & Co., Calcutta.*
1909 July 7.	R.	Waters, Major Ernest Edwin, I.M.S. 14, *Russell Street, Calcutta.*
1911 Feb. 1.	N.R.	Waters, Dr. Harry George, F.R.I.P.H. *Medical Officer, Jamalpur.*
1905 Dec. 6.	N.R.	Watson, Edwin Roy, M.A., B.Sc. *Dacca.*
1910 Sept. 7.	R.	Watts, H. P., B.A. (Cantab). 11, *Loudon Street, Calcutta.*
1909 Dec. 1.	N.R.	Webster, J. E., I.C.S. *Shillong.*
1907 April 3.	R.	White, Lieut. Arthur Denham, M.B., B.S. (Lond.), I.M.S. *Medical College, Calcutta.*
1907 Feb. 6.	A.	White, Captain J. R., D.S.O., *Gordon Highlanders. Europe.*
1906 Sept. 19.	N.R.	Whitehead, Richard Bertram, I.C.S., Assistant Commissioner. *Dalhousie.*
1909 April 7.	N.R.	Wilkinson, Major Edmund, I.M.S., L.R.C.S., D. Litt., Sanitary Commissioner, *Punjab, Lahore.*
1910 April 6.	N.R.	Williams, Garfield Hodder, M.B., B.S. (Lond.), M.R.C.S., L.R.C.P. *St. John's College, Agra.*
1911 July 5.	N.R.	Williams, Major Henry John, King's Dragoon Guard, *Umbala, Punjab.*
1910 May 4.	R.	Williams, S. C., B.A. *Railway House, Fairlie Place, Calcutta.*
1909 Mar. 3.	F.M.	Wilson, J. R. R., M.I.C.E., F.G.S. H.M. Inspector of Mines, *Woodlands, Westwood Lane, Leeds, England.*
1910 Dec. 7.	R.	Windsor, Major Frank Needham, I.M.S. *Medical College, Calcutta.*
1904 Mar. 4.	R.	Wood, William Henry Arden, M.A., F.C.S., F.R.G.S., Principal, La Martinière. 11, *Loudon Street, Calcutta.*
1909 April 7.	N.R.	Woodhouse, E. J., B.A. *Sabour, E.I.R.*
1906 July 4.	A.	Woodley, Rev. Edward Carruthers, M.A. *Europe.*
1906 Mar. 7.	N.R.	Woolner, Alfred Cooper, M.A., Principal, Oriental College. *Lahore.*
1908 April 1.	A.	Wordsworth, William Christopher. *Europe.*
1907 June 5.	R.	Wright, Harold, A.M.I.C.E. *E.I.R. House, Calcutta.*

Date of Election.		
1894 Aug. 30.	N.R.	Wright, The Hon. Mr. Henry Nelson, B.A., I.C.S., Legal Remembrancer, Government of United Provinces. *Allahabad.*
1905 Mar. 1.	R.	Young, Rev. Arthur Willifer. 23, *Chowringhee, Calcutta.*
1911 Aug. 2.	N.R.	Young, Gerald Mackworth, B.A., I.C.S., Punjab Secretariat. *Lahore.*
1906 June 6.	N.R.	Young, Mansel Charles Gambier. *Dhanbaid.*
1910 April 6.	N.R.	Young, Capt. Thomas Charles McCombie, M.B., I.M.S. *Dacca.*

SPECIAL HONORARY CENTENARY MEMBERS.

Date of Election.	
1884 Jan. 15.	Dr. Ernst Haeckel, Professor in the University of Jena. *Prussia.*
1884 Jan. 15.	Revd. Professor A. H. Sayce, Professor of Assyriology, Queen's College. *Oxford, England.*
1884 Jan. 15.	Monsieur Émile Senart. 18, *Rue François Ier. Paris, France.*

HONORARY FELLOWS.

Date of Election.	
1879 June 4.	Dr. Albert Günther, M.A., M.D., Ph.D., F.Z.S., F.R.S. 23, *Lichfield Road, Kew, Surrey, England.*
1879 June 4.	Dr. Jules Janssen. *Observataire d'Astronomie Physique de Paris, France.*
1883 Feb. 7.	Dr. Alfred Russell Wallace, LL.D., D.C.L., F.L.S., F.Z.S., F.R.S. *Curfe View, Parkstone, Dorset, England.*
1894 Mar. 7.	Professor Theodor Noeldeke. *C/o Mr. Karl T. Trübner, Strassburg, Germany.*
1895 June 5.	Lord Rayleigh, M.A., D.C.L., D.Sc., LL.D., Ph.D., F.R.A.S., F.R.S. *Ferling Place, Witham, Essex, England.*
1895 June 5.	Charles H. Tawney, Esq., M.A., C.I.E. *C/o India Office, London.*
1896 Feb. 5.	Lord Lister, F.R.C.S., D.C.L., M.D., LL.D., D.Sc., F.R.S. 12, *Park Crescent, Portland Place, London.*
1896 Feb. 5.	Professor Charles Rockwell Lanman. 9, *Farrar Street, Cambridge, Massachusetts, U.S. America.*
1899 Feb. 1.	Dr. Augustus Frederick Rudolf Hœrnle, Ph.D., C.I.E. 8, *Northmoor Road, Oxford, England.*
1899 Dec. 6.	Professor Edwin Ray Lankester, M.A., LL.D., F.R.S., *British Museum (Nat. Hist.), Cromwell Road, London, S.W.*
1899 Dec. 6.	Professor Edward Burnett Tylor, D.C.L., LL.D., F.R.S., Keeper, University Museum. *Oxford, England.*

Date of Election.	
1899 Dec. 6.	Professor Edward Suess, Ph.D., Professor of Geology in the University of Vienna.
1901 Mar. 6.	Professor John Wesley Judd, C.B., LL.D., F.R.S., F.G.S., Late Prof. of the Royal College of Science. 30, *Cumberland Road, Kew, England.*
902 Nov. 5.	Monsieur René Zeiller. *Ingénieur en chef des Mines. École superieur des Mines, Paris.*
1904 Mar. 2.	Professor Hendrick Kern. *Utrecht, Holland.*
1904 Mar. 2.	Professor Sir Ramkrishna Gopal Bhandarkar, K.C.I.E., *Poona.*
1904 Mar. 2.	Professor Ignaz Goldziher, Ph.D., D.Litt., LL.D. *Budapest, Hungary.*
1904 Mar. 2.	Sir Charles Lyall, M.A., K.C.S.I., C.I.E., LL.D. 82, *Cornwall Gardens, London, S.W.*
1904 Mar. 2.	Sir William Ramsay, Ph.D. (Tüb.), LL.D., Sc.D. (Dubl.), F.C.S., F.I.C. *University College, Gower Street, London, W.C.*
1904 July 2.	Dr. George Abraham Grierson, Ph.D., D.Litt., C.I.E., I.C.S. (retired). *Rothfarnham, Camberley, Surrey, England.*
1906 Mar. 7.	The Right Hon'ble Baron Curzon of Kedleston, M.A., D.C.L., F.R.S. 1, *Carlton House Terrace, London, S.W.*
1908 July 1.	Lt.-Col. Henry Haversham Godwin-Austen, F.R.S., F.Z.S., F.R.G.S. *Nora Godalming, Surrey, England.*
1908 July 1.	Dr. H. Oldenderg. The University, Gottingen. *Germany.*
1911 Sept. 6.	Lieut.-Col. Alfred William Alcock, I.M.S., C.I.E., M.B., LL.D., C.M.Z.S., F.R.S. *Heathlands, Erith Road, Belvedere, Kent, England.*
1911 Sept. 6.	Prof. Edward George Browne, M.A., M.B., M.R.C.S., L.R.C.P., M.R.A.S. *Pembroke College, Cambridge.*
1911 Sept. 6.	Dr. A. Engler, Prof. of Systematic Botany, University of Berlin, *Prussia.*
1911 Sept. 6.	Sir Clements Markham, K.C.B., F.R.S., D.Sc. 21, *Eccleston Square, London, S.W.*
1911 Sept. 6.	Mahamahopadhyaya Kamakhyanath Tarkavagisa. 111-4, *Shambazar Street, Calcutta.*

FELLOWS.

Date of Election.	
1910 Feb. 2.	Dr. N. Annandale, D.Sc., C.M.Z.S., F.L.S.
1910 Feb. 2.	The Hon'ble Justice Sir Asutosh Mukhopadhyaya, Kt., C.S.I., M.A., D.L., D.Sc., F.R.A.S., F.R.S.E.
1910 Feb. 2.	I. H. Burkill, Esq., M.A., F.L.S.
1910 Feb. 2.	Mahamahopadhyaya Haraprasad Sashtri, C.I.E., M.A.
1910 Feb. 2.	Sir Thomas Holland, K.C.I.E., D.Sc., A.R.C.S., F.G.S., F.R.S.

Date of Election.	
1910 Feb. 2.	D. Hooper, Esq , F.C.S.
1910 Feb. 2.	T. H. D. LaTouche, Esq., B.A., F.G.S.
1910 Feb. 2.	Babu Monmohan Chakravarti, M.A., B.L.
1910 Feb. 2.	Lieut.-Colonel D. C. Phillott, Indian Army.
1910 Feb. 2.	Dr. Prafulla Chandra Ray, D.Sc.
1910 Feb. 2.	Major L. Rogers, C.I.E., M.D., B.S., F.R.C.P., F.R.C.S., I.M.S.
1910 Feb. 2.	Dr. E. D. Ross, Ph.D.
1910 Feb. 2.	Mahamahopadhyaya Satis Chandra Vidyabhusana, M.A., Ph.D., M.R.A.S.
1910 Feb. 2.	Dr. G. Thibaut, Ph.D., C.I.E.
1910 Feb. 2.	Dr. M. W. Travers, D.Sc., F.R.S.
1910 Feb. 2.	A. Venis, Esq., M.A.
1910 Feb. 2.	Dr. G. T. Walker, C.S.I., M.A., F.R.S.
1911 Feb. 1.	E. A. Gait, Esq., C.I.E., I.C.S.
1911 Feb. 1.	H. H. Hayden, Esq., C.I.E., B.A., B.E., F.C.S.

ASSOCIATE MEMBERS.

Date of Election.	
1875 Dec. 1.	Revd. J. D. Bate. 15, *St. John's Church Road, Folkstone, Kent, England.*
1882 June 7.	Herbert Giles, Esq. *Europe.*
1884 Aug. 6.	F. Moore, Esq., F.L.S. *Claremont House, Avenue Road, Penge, Surrey, England.*
1885 Dec. 2.	Dr. A. Führer. *Europe.*
1886 Dec. 1.	Sarat Chandra Das, Rai Bahadur, C.I.E. 32, *Creek Row, Calcutta.*
1899 April 5.	Pandit Visnu Prasad Raj Bhandari. Chief Librarian, Bir Library. *Katmandu, Nepal.*
1899 Nov. 1.	Revd. E. Francotte, S.J. 30, *Park Street, Calcutta.*
1902 June 4.	Revd. A. H. Francke. *Niesky Ober-Lausitz, Germany.*
1908 July 1.	Babu Dinesh Chandra Sen. 19, *Kantapuker Lane, Calcutta.*
1908 July 1.	Revd. Father J. Hoffmann, S.J. *Mauresa House, Ranchi.*
1909 Mar. 3.	Rai Balkrishna Atmaram Gupte, Bahadur. *Indian Museum, Calcutta.*
1910 Sept. 7.	Shamsul Ulama Maulvi Ahmad Abdul Aziz. *Azeez Bay, City-Hyderabad, Deccan.*
1910 Sept. 7.	L. K. Anantha Krishna Iyer, Esq. *Thichur.*
1910 Dec. 7.	The Rev. H. Hosten, S.J. 30, *Park Street, Calcutta.*

LIST OF MEMBERS WHO HAVE BEEN ABSENT FROM INDIA THREE YEARS AND UPWARDS.*

* *Rule* 40.—After the lapse of three years from the date of a member leaving India, if no intimation of his wishes shall in the interval have been received by the Society, his name shall be removed from the List of Members.

The following members will be removed from the next Member List of the Society under the operation of the above Rule:—

Percy Bramley, Esq.
Albert Pendrill Charles, Esq., I.C.S.
Dr. Olin Eakins, M.D.
Sir Andrew Henderson Leith Fraser, K.C.S.I.
Lieut. George Harris, Indian Army.
Benjamin Grey Horniman, Esq.
Walter Percy Spencer Milstead, Esq.
Arthur William Pim, Esq., I.C.S.
Herbert Frederick Samman, Esq., I.C.S.
E. P. Stebbing, Esq., F.Z.S.
Rodway Charles John Swinhoe, Esq.
Dr. G. Orissa Taylor.

LOSS OF MEMBERS DURING 1911.

By Retirement.

E. F. Abraham, Esq., I.C.S.
R. P. Ashton, Esq.
Sir Edward Norman Baker, K.C.S.I.
John Rothney Barrow, Esq.
Raja Prabhat Chandra Barua.
Babu Pramathanath Bose, B.Sc., I.C.S.
Babu Sasi Bhusana Bose.
Major W. M. Coldstream, R.E.
Captain Ivan Maxwell Conway-Poole, I.A.
John Richard Cunningham, Esq., M.A.
John Nicol Farquhar, Esq., M.A.
Captain Charles Monk Gibbon, I.M.S.
Babu Badridas Goenka.
Hon. Sir Lancelot Hare, K.C.S.I.
Major William Davey Hayward, I.M.S.
Lt.-Col. John Lloyd Jones, I.M.S.
Lt.-Col. J. G. Jordan, I.M.S.
Thomas Hanson Kingdon, Esq.
Captain Maxwell Mackelvie, I.M.S.
Shams-ul-Ulama Mahmud Gilani.
William McIntosh, Esq.
A. N. Moberly, Esq., I.C.S.

Captain John Morrison, I.M.S.
Babu Harendra Krishna Mukerjee.
Dr. Thomas Frederick Pearse, M.D.
Captain B. C. Penton, I.A.
Hugh Melville Percival, Esq., M.A.
Sir Harold Stuart, K.C.V.O., C.S.I.

BY DEATH.

Ordinary Members.

Colin Harington Browning, Esq.
John Arthur Cunningham, Esq., B.A.
Harinath De, Esq., M.A.
Major Charles John Robertson Milne, I.M.S.
Maulavi Mahomed Naemullah.
Major B. C. Oldham, I.M.S.
Babu Ambika Charan Sen, I.C.S.
Rev. Laurentius Olavi Skrefsrud.

Life Members.

Sayid Ali Bilgrami, A.R.S.M.
Sir Wala Qadr Sayid Hassan Ali Mirza, G.C.I.E.

Special Honorary Centenary Member.

Charles Meldrum, Esq., C.M.G., F.R.A.S.

Honorary Fellows.

Sir Joseph Dalton Hooker, G.C.S.I.
William Irvine, Esq., I.C.S. (retired).
Prof. Paul Regnaud.
Acharya Satyavrata Samasrami.

UNDER RULE 40.

Frederick MacBlaine, Esq., I.C.S.
Phra Maha Chandeina.

ELLIOTT GOLD MEDAL

RECIPIENTS.

1893	Chandra Kanta Basu.
1895	Yati Bhusana Bhaduri, M.A.
1896	Jnan Saran Chakravarti, M.A.
1897	Sarasi Lal Sarkar, M.A.
1901	Sarasi Lal Sarkar, M.A.
1904	Sarasi Lal Sarkar, M.A. Surendra Nath Maitra, M.A.
1907	Akshoyakumar Mazumder.

BARCLAY MEMORIAL MEDAL.

Recipients.

1901 E. Ernest Green, Esq.
1903 Major Ronald Ross, F.R.C.S., C.B., C.I.E., F.R.S., I.M.S. (retired).
1905 Lieut.-Colonel D. D. Cunningham, F.R.S., C.I.E., I.M.S. (retired).
1907 Lieut.-Colonel Alfred William Alcock, M.B., LL.D., C.I.E., F.R.S.
1909 Lieut.-Colonel David Prain, M.A., M.B., LL.D., F.R.S., I.M.S. (retired).
1911 Dr. Karl Diener.

[APPENDIX.]

ABSTRACT STATEMENTS

OF

RECEIPTS AND DISBURSEMENTS

OF THE

ASIATIC SOCIETY OF BENGAL

FOR

THE YEAR 1911.

STATEMENT

1911. *Asiatic Society*

Dr.

To Establishment.

	Rs.	As.	P.	Rs.	As.	P.
Salaries	6,426	15	7			
Do. (Officer in charge for Researches in History, Religion, Ethnology and Folklore in Bengal)	3,600	0	0			
Commission	662	7	5			
Pension	420	0	0			
Bonus	114	12	0			
				11,224	3	0

To Contingencies.

Stationery	206	15	6		
Taxes	1,465	0	0		
Postage	892	5	8		
Freight	184	3	2		
Auditing	100	0	0		
Lights and Fans	269	6	6		
Insurance fee	187	8	0		
Miscellaneous	1,094	4	8		
Petty repairs	52	5	6		
				4,452	0	6

To Library and Collections.

Books	1,879	4	10		
Binding	1,075	4	0		
Library Catalogue	779	11	0		
				3,734	3	10

To Publications.

"Journal and Proceedings" and "Memoirs"	6,319	2	6			
To printing charges of Circulars, &c. ...	630	4	0			
				6,949	6	6
Interest on Government Paper purchased				532	2	9
To Personal Account (written off and miscellaneous) ...				299	2	6

To Extraordinary Expenditure.

Royal Society's Scientific Catalogue			5,023	11	7
Balance			2,32,014	1	4
Total Rs. ...			2,64,229	0	0

No. 1
of Bengal. *1911.*

Cr.

	Rs. As. P.	Rs. As. P.
By Balance from last Report		1,82,930 2 8
By Cash Receipts.		
Publications sold for cash	1,385 10 6	
Interest on Investments	8,303 14 2	
Rent of room in the Society's premises ...	550 0 0	
Allowance from Government of Bengal for the publication of papers on Anthropological and Cognate subjects	2,000 0 0	
Do. do. Government of Eastern Bengal and Assam do. do.	1,000 0 0	
Do. do. Government of Bengal for Researches in History, Religion, Ethnology, and Folklore in Bengal ...	3,600 0 0	
Grant from Government of India towards the construction of new Building	40,000 0 0	
Loan	2,000 0 0	
Miscellaneous	198 3 9	
		59,037 12 5
By Extraordinary Receipts.		
Subscriptions to Royal Society's Scientific Catalogue		6,124 9 7
By Personal Account.		
Admission fees	1,504 0 0	
Members' subscription	12,152 0 0	
Compound subscription	140 0 0	
Subscriptions for the Society's "Journal and Proceedings" and "Memoirs"... ...	1,560 0 0	
Sales on credit	779 2 0	
Miscellaneous	1 5 4	
		16,136 7 4
Total Rs. ...		2,64,229 0 0

D. Hooper,
Honorary Treasurer,
Asiatic Society of Bengal.

STATEMENT

1911. Oriental Publication Fund, No. 1, in

Dr.

To Cash Expenditure.

			Rs.	As.	P.	Rs.	As.	P.
Salaries			1,710	4	11			
Commission			41	2	7			
Postage			216	7	0			
Editing charges			4,100	3	6			
Contingencies			82	15	0			
Printing charges			9,073	13	0			
Stationery			32	0	6			
Freight			108	11	10			
Lights and Fans			45	14	6			
Bonus			28	12	0			
						15,440	4	10
To Personal Account (written off and miscellaneous)						77	15	9
	Balance					2,488	13	7
	Total Rs. ...					18,007	2	2

STATEMENT

1911. Oriental Publication Fund, No. 2, in

Dr.

To Cash Expenditure.

		Rs.	As.	P.
Printing charges		4,381	13	0
	Balance	6,699	6	0
	Total Rs. ...	11,081	3	0

No. 2.

Acct. with the Asiatic Soc. of Bengal. 1911.

Cr.

	Rs.	As.	P.	Rs.	As.	P.
By Balance from last Report				6,229	3	4
By Cash Receipts.						
Government Allowances	9,000	0	0			
Publications sold for cash	1,395	5	4			
Advances recovered	67	10	9			
				10,463	0	1
By Personal Account.						
Sales on credit				1,314	14	9
Total Rs. ...				18,007	2	2

D. Hooper,
Honorary Treasurer,
Asiatic Society of Bengal.

No. 3.

Acct. with the Asiatic Soc. of Bengal. 1911.

Cr.

	Rs.	As.	P.
By Balance from last Report	8,081	3	0
By Cash Receipts.			
Government Allowance	3,000	0	0
Total Rs. ...	11,081	3	0

D. Hooper,
Honorary Treasurer,
Asiatic Society of Bengal.

STATEMENT

1911. Oriental Publication Fund, No. 3, in

Dr.

To Cash Expenditure.

		Rs.	As.	P.
Printing charges		656	4	0
Balance		1,198	9	6
Total Rs.		1,854	13	6

STATEMENT

1911. Sanskrit Manuscript Fund in Acct.

Dr.

To Cash Expenditure.

	Rs.	As.	P.	Rs.	As.	P.
Salaries	1,489	4	6			
Printing charges	1,160	12	0			
Contingencies	152	6	3			
Stationery	7	1	6			
Purchase of Manuscripts	1,019	8	0			
Insurance	125	0	0			
Bonus	12	8	0			
				3,966	8	3
Balance				1,195	13	11
Total Rs. ...				5,162	6	2

No. 4.

Acct. with the Asiatic Soc. of Bengal. 1911.

Cr.

	Rs.	As.	P.
By Balance from last Report	1,854	13	6
TOTAL Rs.	1,854	13	6

D. HOOPER,
Honorary Treasurer,
Asiatic Society of Bengal.

No. 5.

with the Asiatic Society of Bengal. 1911.

Cr.

	Rs.	As.	P.	Rs.	As.	P.
By Balance from last Report				1,952	6	2
BY CASH RECEIPTS.						
Government Allowance	3,200	0	0			
Publications sold for cash	10	0	0			
				3,210	0	0
TOTAL Rs. ...				5,162	6	2

D. HOOPER,
Honorary Treasurer,
Asiatic Society of Bengal.

STATEMENT

1911. *Arabic and Persian MSS. Fund in*

Dr.

To Cash Expenditure.

	Rs. As. P.	Rs. As. P.
Salaries	2,110 0 0	
Postage	13 3 6	
Contingencies	9 1 0	
Stationery	11 14 6	
Purchase of Manuscripts	1,090 0 0	
Loan	2,000 0 0	
Insurance	31 4 0	
		5,265 7 0
Balance		634 14 4
Total Rs. ...		5,900 5 4

STATEMENT

1911. *Bardic Chronicles MSS. Fund in*

Dr.

To Cash Expenditure.

	Rs. As. P.	Rs. As. P.
Travelling charges		562 3 0
Balance		1,153 15 6
Total Rs. ...		1,716 2 6

No. 6.

Acct. with the Asiatic Soc. of Bengal. 1911.

Cr.

	Rs. As. P.	Rs. As. P.
By Balance from last Report		1,567 0 0
By Cash Receipts.		
Government Allowance		4,333 5 4
Total Rs. ...		5,900 5 4

D. Hooper,
Honorary Treasurer,
Asiatic Society of Bengal.

No. 7.

Acct. with the Asiatic Soc. of Bengal. 1911.

Cr.

	Rs. As. P.	Rs. As. P.
By Balance from last Report		1,716 2 6
Total Rs. ...		1,716 2 6

D. Hooper,
Honorary Treasurer,
Asiatic Society of Bengal.

STATEMENT

1911. *Personal*

Dr.

	Rs.	As.	P.	Rs.	As.	P.
To Balance from last Report				5,215	4	1
To Cash Expenditure.						
Advances for purchase of Manuscripts, etc.				185	1	10
To Asiatic Society	16,136	7	4			
,, Oriental Publication Fund, No. 1 ...	1,314	14	9			
				17,451	6	1
Total Rs. ..				22,851	12	0

STATEMENT

1911. *Invest-*

Dr.

	Value.			Cost.		
	Rs.	As.	P.	Rs.	As.	P.
To Balance from last Report	1,98,700	0	0	1,97,926	0	10
,, Purchase	40,000	0	0	38,025	0	0
Total Rs. ...	2,38,700	0	0	2,35,951	0	10

Funds.	Permanent Reserve.						Temporary Reserve						Total Cost		
	Value.			Cost			Value.			Cost.					
	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.
Asiatic Society ...	1,61,950	0	0	1,60,705	9	8	75,350	0	0	73,906	1	2	2,34,611	10	10
Trust Fund ...	1,400	0	0	1,339	6	0	...	...	...	...	...	..	1,339	6	0
Total Rs. ...	1,63,350	0	0	1,62,044	15	8	75,350	0	0	73,906	1	2	2,35,951	0	10

No. 8.

Account. *1911.*

Cr.

				Rs.	As.	P.	Rs.	As.	P.
By Cash Receipts	...	...	...	...			17,261	12	6
,, Asiatic Society	...	...	...	299	2	6			
,, Oriental Publication Fund, No. 1			...	77	15	9			
							377	2	3

By Balance.	Due to the Society.			Due by the Society.			
	Rs.	As.	P.	Rs.	As.	P.	
Members ...	4,356	8	6	129	2	0	
Employés ...	30	0	0	100	0	0	
Oriental Publication Fund, No. 1 ...	432	0	6	...	...	...	
Bardic Chronicles MSS. Fund ...	500	0	0	...	...	...	
Miscellaneous ...	131	0	9	7	10	0	
	5,449	9	3	236	12	0	
						...	5,212 13 3
TOTAL Rs.						...	22,851 12 0

D. HOOPER,
Honorary Treasurer,
Asiatic Society of Bengal.

No. 9.

ment. *1911.*

Cr.

				Value. Rs.	As.	P.	Cost. Rs.	As.	P.
By Balance	...	...	...	2,38,700	0	0	2,35,951	0	10
TOTAL Rs.			...	2,38,700	0	0	2,35,951	0	10

D. HOOPER,
Honorary Treasurer,
Asiatic Society of Bengal.

STATEMENT

1911. *Trust*

Dr.

		Rs.	As.	P.
To Pension		48	0	0
Balance		1,466	11	10
TOTAL Rs. ...		1,514	11	10

STATEMENT

1911. *Cash*

Dr.

			Rs.	As.	P.
To Balance from last Report			2,655	6	1
RECEIPTS.					
To Asiatic Society	65,162	6	0		
,, Oriental Publication Fund, No. 1 ...	10,463	0	1		
,, Do. do. No. 2 ...	3,000	0	0		
,, Sanskrit Manuscripts Fund	3,210	0	0		
,, Arabic and Persian MSS. Fund ...	4,333	5	4		
,, Personal Account	17,261	12	6		
,, Trust Fund	49	0	0		
				1,03,479	7 11
TOTAL Rs. ...				1,06,134	14 0

No. 10.

Fund. *1911.*

Cr.

	Rs.	As.	P.
By Balance from last Report	1,465	11	10
,, Interest on Investments	49	0	0
TOTAL Rs. ...	1,514	11	10

D. HOOPER,
Honorary Treasurer,
Asiatic Society of Bengal.

No. 11.

Account. *1911.*

Cr.

EXPENDITURE.

	Rs.	As.	P.	Rs.	As.	P.
By Asiatic Society	31,915	12	2			
,, Oriental Publication Fund, No. 1 ...	15,440	4	10			
,, Do. do. No. 2 ...	4,381	13	0			
,, Do. do. No. 3 ...	656	4	0			
,, Sanskrit Manuscripts Fund ...	3,966	8	3			
,, Arabic and Persian MSS. Fund ...	5,265	7	0			
,, Bardic Chronicles Manuscript Fund ...	562	3	0			
,, Personal Account	185	1	10			
,, Investment	38,025	0	0			
,, Trust Fund	48	0	0			
				1,00,446	6	1
Balance				5,688	7	11
TOTAL Rs. ...				1,06,134	14	0

D. HOOPER,
Honorary Treasurer,
Asiatic Society of Bengal.

STATEMENT

1911. *Balance*

LIABILITIES.

	Rs.	As.	P.	Rs.	As.	P.
Asiatic Society	2,32,014	1	4			
Oriental Publication Fund, No. 1... ...	2,488	13	7			
Do. do. No. 2	6,699	6	0			
Do. do No. 3... ...	1,198	9	6			
Sanskrit Manuscripts Fund	1,195	13	11			
Arabic and Persian Manuscripts Fund ...	634	14	4			
Bardic Chronicles Manuscripts Fund ...	1,153	15	6			
Trust Fund	1,466	11	10			
				2,46,852	6	0
TOTAL Rs. ..				2,46,852	6	0

We have examined the above Balance Sheet, and the appended detailed Accounts with the books and vouchers presented to us, and certify that it is in accordance therewith, correctly setting forth the position of the Society as at the 31st December, 1911.

CALCUTTA,
7th February, 1912.

MEUGENS, KING & Co.,
Chartered Accountants,
Auditors.

No. 12.

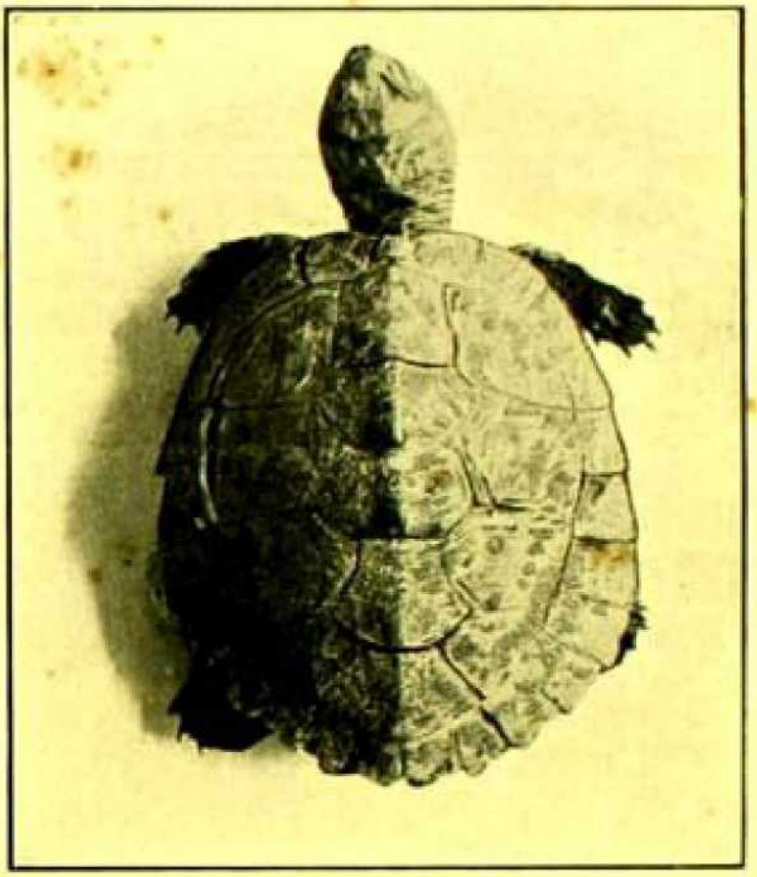
Sheet. *1911.*

ASSETS.

	Rs.	As.	P.	Rs.	As.	P.
Personal Account	5,212	13	3			
Investment ($3\frac{1}{2}$% Government Pro. Notes, Cost)	2,35,951	0	10			
Cash Account	2,688	7	11			
				2,46,852	6	0
3% Government Pro. Note at Bank of Bengal's Safe Custody Account, Cashier's Security Deposit Rs. 500				...		
TOTAL Rs. ...				2,46,852	6	0

D. HOOPER,

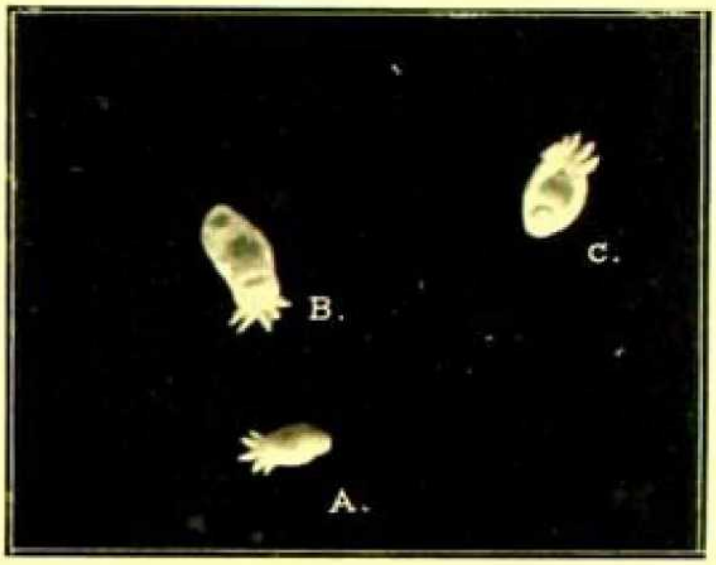
Honorary Treasurer,
Asiatic Society of Bengal.



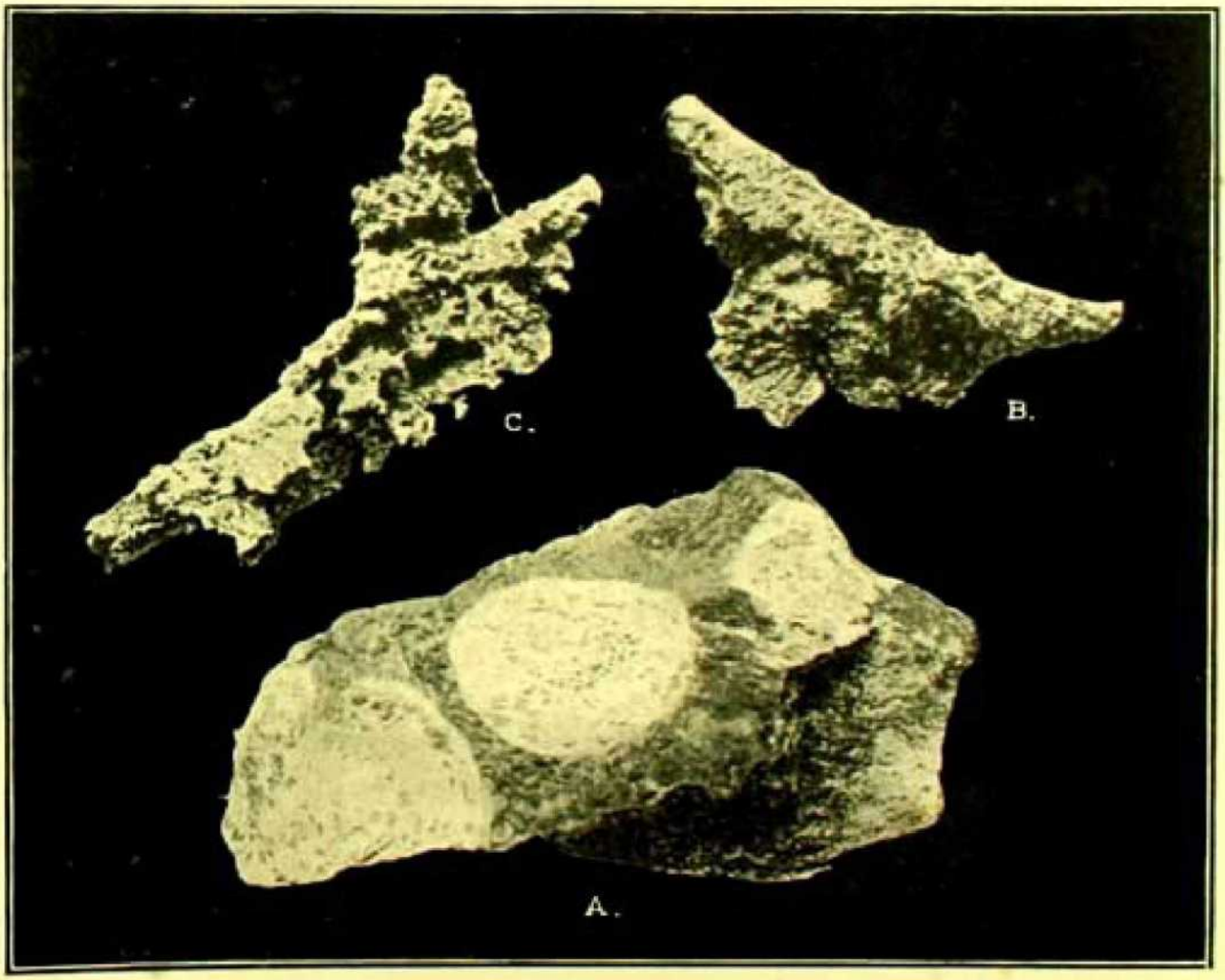
KACHUGA DHONGOKA with statoblasts of PLUMATELLA TESTUDINICOLA.

Shells covered with colonies of HISLOPIA LACUSTRIS.

Photos by N. Annandale.

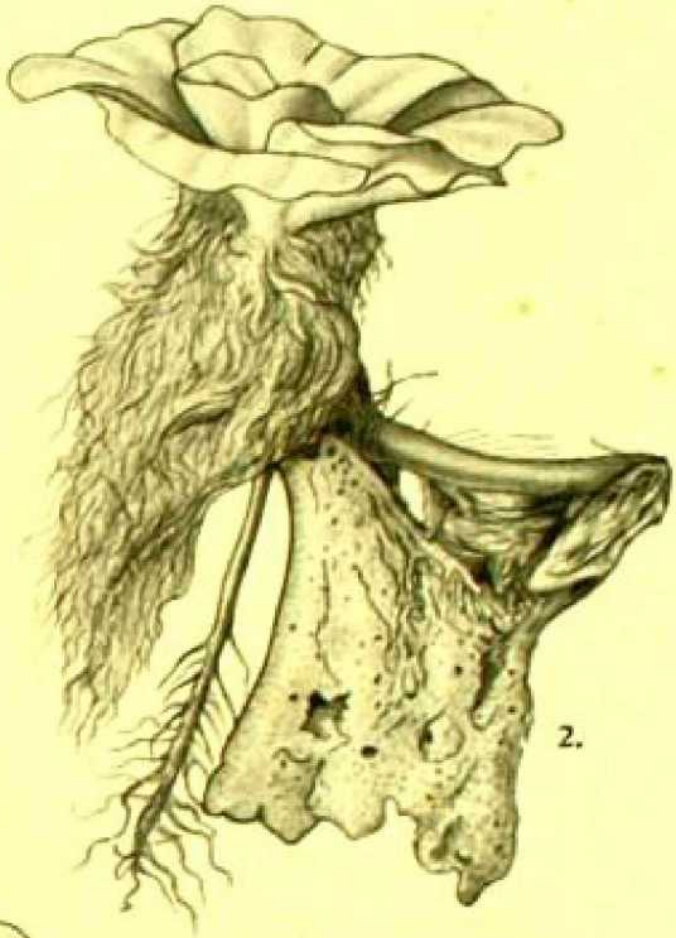


TEMNOCEPALA SEMPERI taken from freshwater crabs.

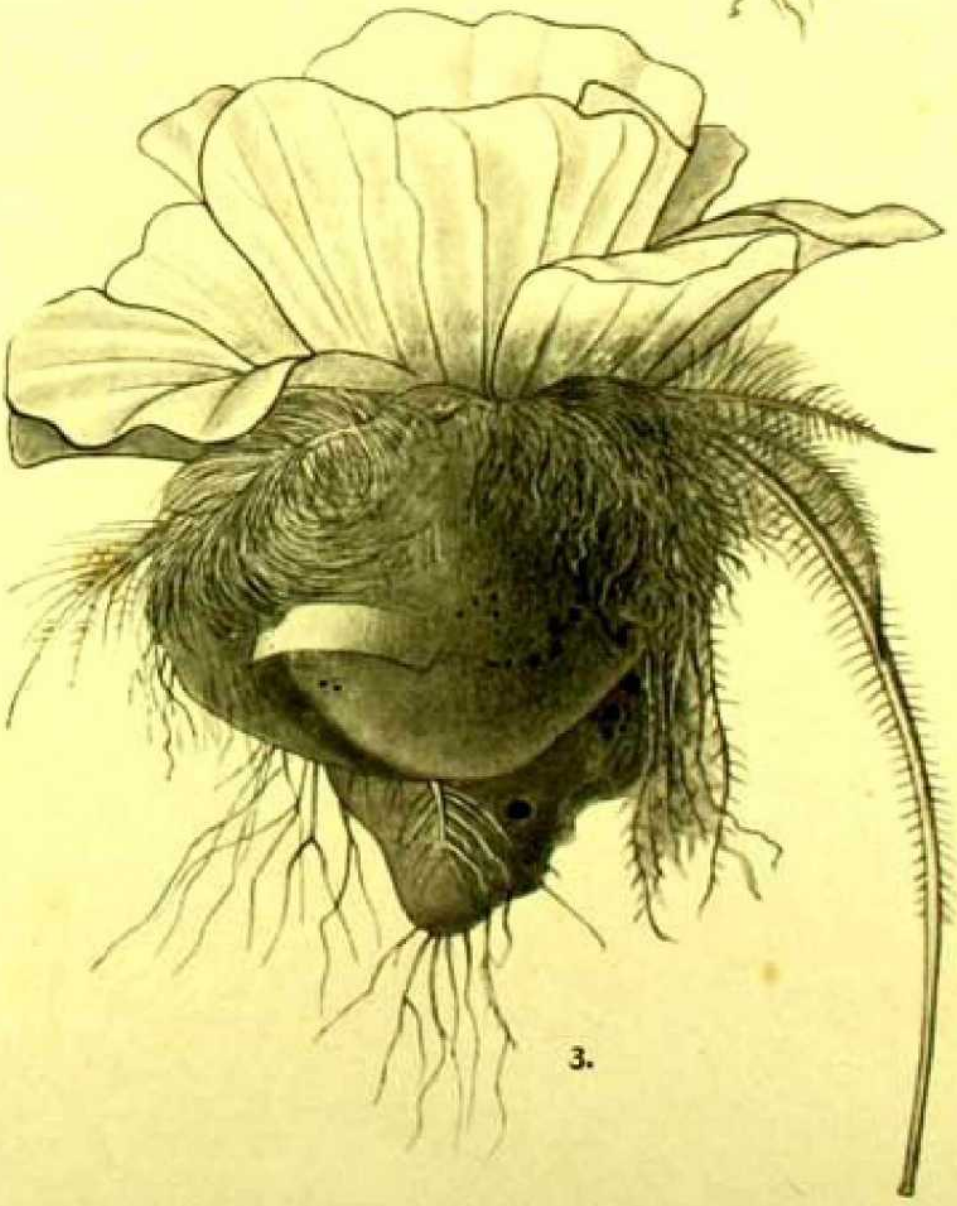


Specimens of EPHYDATIA FLUVIATILIS from the Lakes of Kumaon.

1.



2.



3.

MARCH, 1912.

The Monthly General Meeting of the Society was held on Wednesday, the 6th March, 1912, at 9-15 p.m.

D. Hooper, Esq, F.C.S., in the chair.

The following members were present:—

Maulavi Abdul Wali, Dr. N. Annandale, Mr. A. C. Atkinson, Dr. U. N. Brahmachari, Babu Monmohan Chakravarti, Babu Nilmani Chakravarti, Babu Amulya Charan Ghosh Vidyabhusana, Rev. H. Hosten, S.J., Mr. W. A. Lee, Dr. Indu Madhab Mullick, Mr. R. D. Mehta, C.I.E., Mr. C. W. McMinn, Rev. A. C. Ridsdale, Capt. R. B. Seymour Sewell, I.M.S., Maulvi Aga Muhammad Kazim Shirazi, Mr. G. H. Tipper, Rev. A. W. Young.

Visitors:—Babu Surya Narain Sen, Dr. C. H. B. Thompson.

The minutes of the January meeting and the Annual meeting were read and confirmed.

Eighty-four presentations were announced.

The General Secretary reported that Sir E. N. Baker, K.C.S.I., Sir R. P. Ashton, Kt., Capt. C. M. Gibbon, Capt. I. M. Conway-Poole, I.A., Mr. A. H. Lewes, Mr. J. C. R. Johnston and Mr. J. H Marshall had expressed a wish to withdraw from the Society.

The General Secretary also reported the deaths of Major B. C. Oldham, I.M.S., Babu Girish Chandra Ghose, Mr. E. L. Preston, Maharaja Sri Ram Chandra Deb, Ordinary members, and Lord Lister, an Honorary Fellow.

The General Secretary read the names of the following gentlemen who have been appointed to serve on the various Committees during 1912:—

Finance Committee:—Dr. N. Annandale, Hon. Justice Sir Asutosh Mukhopadhyaya, Kt., Mr. I. H. Burkill, Mr. W. K. Dods, Mahamahopadhyaya Haraprasad Shastri, C.I.E.

Library Committee:—Dr. N. Annandale, Hon. Jsutice Sir Asutosh Mukhopadhyaya, Kt., Mr. I. H. Burkill, Mahamahopadhyaya Haraprasad Shastri, C.I.E., Mr. J. A. Chapman, Dr. E. P. Harrison, Mr. H. H. Hayden, C.I.E., Lieut.-Colonel F. P. Maynard, Capt. J. D. Sandes, I.M.S., Dr. E. D. Ross, Dr. G. Thibaut.

Philological Committee:—Hon. Mr. Abdulla al-Mamun Suhrawardy, Hon. Justice Sir Asutosh Mukhopadhyaya, Kt., Mr. E. A. Gait, C.I.E., Dr. Girindra Nath Mukhopadhyaya, Mahamahopadhyaya Haraprasad Shastri, C.I.E., Babu Monmohan Chakravarti, Babu Muralidhar Banerjee, Babu Nogendra Nath Vasu, Lieut.-Colonel D. C. Phillott, Ph.D., Babu Rakhal Das Banerji, Dr. E. D. Ross, Dr. Satis Chandra Vidyabhusana, Dr. G. Thibaut, Mr. E. Venis, Babu Nilmani Chakravarti, Maulavi Abdul Wali.

The General Secretary read the following letter from the Hungarian Academy of Sciences, Budapest, forwarding a bronze bust of Alexander Csöma de Körös as a presentation to the Society.

MAGYAR TUDOMÁNYOS AKADÉMIA.

507
1911.

THE HON. SECRETARY,
ASIATIC SOCIETY OF BENGAL,
CALCUTTA.

DEAR SIR,

The warm appreciation which your Society has shown towards the memory of our great countryman Alexander Csöma de Körös has earned the gratitude of the whole Hungarian nation, and in particular of the Magyar Tudományos Akadémia, which desires to express its gratitude by the presentation of a lasting token. To this end, on May 10th, 1910, we offered you a bronze bust of Alexander Csöma which in your letter of July 7th, 1910, you were kind enough to accept. For reasons beyond our control the fulfilment of our promise has been delayed. You will kindly accept our apologies for the delay; and we trust that the bust, which is ready at last and is being despatched to-day to your address, may serve as a token of goodwill and a perpetual reminder of the esteem and gratitude which our Academy will always feel towards your Society.

With renewed expressions of our heartfelt gratitude, believe me to be,

Dear Sir,

Yours faithfully,

(Sd.) A. BERZEVICZY,

President of the Magyar Todományos Akadémia.

Maulavi Aga Muhammad Kazim Shirazi on behalf of the Hon. Dr. Suhrawardy read the following obituary notice of the late Mr. R. F. Azoo:—

When on the 6th September, 1911, I read in this very hall the obituary notice of Harinath De, little did I know that within two short months I should have once more to lament the loss of another great scholar, of a valued colleague, and a personal friend. Death seems to pursue with cruel persistence that galaxy of brilliant scholars from whose labours the world expected so much light. Indeed, a strange fatality seems to have overtaken, of late, some of the most distinguished scholars associated with the University of Calcutta. Pischel, Bloch, Harinath De, and now, Azoo—Readers and Lecturers to the University—have all departed before the fulfilment of the work undertaken for its benefit.

Rizqullāh Fatḥullāh Azzun, better known as R. F. Azoo, was born in Baghdad of Roman Catholic parents of Chaldean extraction on October 20, 1868. He early displayed a remarkable taste for Arabic literature, and always occupied the first place in the examinations of the local madrasah, in which he had been placed to study Arabic literature and philology under the famous Arabic scholar Ḥaidarī Zāde 'Abdullāh Effendī, and other renowned masters. He came out to India in 1888, and was appointed at the early age of nineteen Arabic Instructor to the Board of Examiners, Fort William. An enthusiastic student, a conscientious teacher, he at once became a pillar of strength to the Board, which has done more than any other institution in India to bring the East nearer the West, by interpreting Eastern thought and Eastern ideas to the civil and military officers charged with the difficult task of administering an Oriental country, and dealing with Oriental peoples.

Besides Arabic, of which he was master, Azoo knew Syriac, Hebrew, Chaldean, Turkish, Persian, Urdu, Latin, modern Greek, German, French and English.

From the moment of his arrival in India till the time of his death he continued to hold the post of Arabic Instructor to the Board of Examiners, and led the uneventful life of a true scholar. In June 1911, the Calcutta University honoured itself by appointing Azoo as the Arabic lecturer to the University. For years Azoo had been examiner to the Universities of Calcutta and the Punjab.

Of a retiring disposition, modest and unobtrusive to a degree, Azoo never cared to advertise his scholarship. But he generously placed the vast store of his learning unstintedly at the disposal of all who sought his aid. There is hardly any Arabic scholar in India who is not under some obligation to him. Intricate points of grammar, philology, etc., were referred to him for solution even by Arabists abroad. To Azoo's profound and accurate scholarship I am indebted for the

elucidation of many a dark and difficult passage which impeded the progress of my researches into the domain of Muslim Law, Theology and Literature, when others failed to throw light on them. Only a few months ago, Azoo and myself planned the publication for our Society, of the *Khulāṣat-al-Fatāwā*, a valuable collection of legal decisions, older, by at least half a century, than the celebrated *Hidayah* itself. Azoo's intention was to make it a model of accurate editing for others to copy. Almost the last of his literary efforts was the chronogrammatical quatrain giving the date of the Coronation of H.I.M. George V. It combines the beauties of the famous lines of Al-Mutanabbi in praise of Sayf-ad-Dowlah, and those of Nasif-al-Yaziji on the occasion of the coronation of Sultan Abdul Aziz, and is considered one of the finest products by competent authorities in the whole range of Arabic literature. But alas! let us not blind ourselves to the fact that, in spite of occasional showers of the titles of Stars and Suns of Learning, there is no appreciation of genuine Arabic scholarship in India, Azoo was throwing pearls before swine.

Although a devout Christian, he was a patriotic Ottoman. It was his ambition to enter the Turkish Parliament on his retirement from service and to make known to the world the literary treasures that lie buried in the libraries scattered over the Ottoman Empire. But,

"The best laid plans of mice and men gang aft agley."

On the 16th October, 1911, he went to Darjeeling on leave to complete the Arabic Grammar undertaken by him and Harinath De for the Calcutta University. On 30th October, 1911, he returned to Calcutta only to die.

The following is the list of his published and projected works:—

Phillott (Lieut.-Col. D. C.), and Azoo (R. F.),—Some Arab Folk Tales from Ḥaẓramut, Journ., N.S., II, 9, 1906, 399.

Phillott (Lieut.-Col. D. C.), and Azoo (R. F.),—Chapters on Hunting Dogs and Cheetas, being an extract from the "Kitabu'l-Bazyarah," a treatise on Falconry, by Ibn Kushājim, an Arab writer of the Tenth century, Journ., N.S., III, 1, 1907, 47.

Phillott (Lieut.-Col. D. C.), and Azoo (R. F.),—Some Birds and other animals that have been metamorphosed (being an extract from the Kitabu'l-Jamharah fi'ilmi'l-Bazyarah, an Arabic manuscript, No. 865, in the Library of the Asiatic Society of Bengal), Journ., N.S., III, 2, 1907, 139.

Phillott (Lieut.-Col. D. C.), and Azoo (R. F.),—The Bird's complaint before Solomon: being an extract with a translation from the "Kitabu'l-Jamharah fi'ilmi'l-Bazyarah," Journ., N.S., III, 3, 1907, 173.

Phillott (Lieut.-Col. D. C.) and Azoo(R. F.),—Things which the Owners of Hawks should Avoid, being an extract from the "Kitabu'l-Jamharah fi'ilmi'l-Bazyarah," Journ., N.S., III, 1907, 401.

Phillott (Lieut.-Col. D. C.), and Azoo (R. F.),—Seven stories from the "Nafhata'l-Yaman," edited and translated. Journ., N.S., III, v, 1907, 527.

Phillott (Lieut.-Col. D. C.), and Azoo (R. F.),—On hunting Dogs, being an extract from the "Kitabu'l-Jamharah," Journ., N.S., III, 9, 1907, 599.

Stapleton (H. E.), and Azoo (R. F.),—An Alchemical Compilation of the Thirteenth Century, A.D. Mem., III, 2, 1907, 57.

Aga Muhammad Kazim Shirazi and R. F. Azoo,—Gulriz.

Chronogrammatical Quatrain of the Coronation of H. I. M. George V.

Khulasat-al-Fatawa.

Ahsanu-t-Taqavim fi marifati-l-aqalim known as Al-Maqaddasi, by Ranking and Azoo.

Ar-Rauzutu-z-Zakiyah, the Higher Standard Arabic text-book.

Glossary to ditto.

Al-Awsat: A comprehensive Arabic Dictionary.

The following gentlemen were balloted for as Ordinary Members:—

H. E. Lord Carmichael, Bart., K.C.M.G., G.C.I.E., Governor of the Presidency of Madras, proposed by Dr. N. Annandale, seconded by Dr. J. P. Vogel; *Major Clayton Lane*, M.D. (London), I.M.S., Civil Surgeon, Murshidabad, proposed by Colonel G. F. A. Harris, C.S.I., seconded by Major D. McCay, I.M.S.; *Babu Manomohan Ganguly*, B.E., District Engineer, Howrah, proposed by Babu Monmohan Chakravarti, seconded by Mr. G. H. Tipper; *Dr. Harinath Ghosh*, Assistant, Campbell Medical School, proposed by Colonel G. F. A. Harris, C.S.I., seconded by Capt. J. D. Sandes, I.M.S.; *Mr. W. Jessop*, Secretary, Y.M.C.A., proposed by Dr. N. Annandale, seconded by Mr. F. H. Gravely; *The Hon. Justice John George Woodroffe*, M.A., B.C.L. (Barrister-at-Law), proposed by Colonel G. F. A. Harris, C.S.I., seconded by Dr. E. D. Ross; *Maharajah Ranajit Sinha*, Nashipur, proposed by Dr. U. N. Brahmachari, seconded by Mr. G. H. Tipper; *Mr. A. C. McWatters*, I.C.S., Under-Secretary, Commerce and Industry Dept., Govt. of India, proposed by Lieut.-Colonel D. C. Phillott, Ph.D., seconded by Mr G. H. Tipper; *Rev. J. Watt*, M.A., Principal, Scottish Churches College, proposed by Mr. D. Hooper, seconded by Rev. A. W. Young.

The following papers were read :—

1. *Discovery of a Greek ornament.—By* MRITUNJOY ROY CHAUDHURY. (*Postponed from January meeting*).

2. *Laksmanasena.—By* RAKHAL DAS BANERJI. (*Postponed from January meeting*).

These papers will be published in a subsequent number of the *Journal.*

3. *The Palas of Bengal.—By* RAKHAL DAS BANERJI. (*Postponed from January meeting*).

This paper will be published in the *Memoirs.*

4. *On a Crystallized Slag from Kulti.—By* HEM CHANDRA DAS GUPTA *Communicated by* MR. H. S. BION. (*Postponed from last meeting*).

This paper will be published in a subsequent number of the *Journal.*

5. *Piperazinium Nitrite.* (*Preliminary Communication*).—*By* PRAFULLA CHANDRA RAY *and* JITENDRA NATH RAKSHIT. (*Postponed from last meeting*).

6. *On Isomeric Allyl Amines.* (*Preliminary Communication*).—*By* PRAFULLA CHANDRA RAY *and* RASIK LAL DATTA. (*Postponed from last meeting*).

7. *Chronographic Quatrain by the late* MR. RAZOKI FATOHI AZOO, *Arabic Instructor, Board of Examiners. Communicated by the* HON. DR. A. SUHRAWARDY *and* SHAMS-UL-ULAMA SHAIKH MAHMUD GILANI. (*Postponed from last meeting*).

8. *References to Indian Mathematics in certain Mediaeval Works.—By* G. R. KAYE. (*Postponed from last meeting*).

These papers have been published in *Journal* for December, 1911.

9. *Prayer of* CHOJE TSANG-PAR GYARI *called the Religious Wishes* (*Ge-jor-dumpa*). *Translated by* LAMA DAURSAMDUP. *Communicated by the Philological Secretary.* (*Postponed from last meeting*).

This paper will be published in a subsequent number of the *Journal.*

10. *Cavalry in the Rgvedic Age.—By* SURENDRA NATH MAZUMDAR. *Communicated by* HON. JUSTICE SIR ASUTOSH MUKHOPADHYAYA.

This paper has been published in *Journal* for February, 1912.

11. *Preliminary note on the interaction of Hydrazines with Ferricyanides.—By* PRIYADARANJAN RAY *and* HEMENDRA KUMAR SEN. *Communicated by* DR. P. C. RAY.

12. *Bhatta Bhavadeva of Bengal.* *By* MONMOHAN CHAKRAVARTI.

These papers will be published in a subsequent number of the *Journal.*

13. *The Alkaloidal principles and Therapeutic properties of "Dhanmarua or Chat-chanda."—By* DR. UPENDRA NATH BRAHMACHARI.

This paper will not be published in the *Journal.*

14. *Primitive Exogamy and the Caste System.—By* W. KIRKPATRICK.

Sirkhi Wala—"or the reed-mat folk." "He that lives under a mat" is the descriptive name applied to an aggregate of casteless tribes of a gipsy-like character, found generally distributed over the western part of the United Provinces and South-Eastern Punjab. As their names imply, they are most of them allied to what Nesfield would classify as the hunting state. They are all branches of a great nomadic race and include the *Kūnchband Kanjar*, makers of weavers' brushes; *Nats* and *Bázigars*, acrobats and tumblers; *Sámpēras* or snake men; *Sigligars* or itinerant knife-sharpeners; *Jallád*, executioners or skinners; *Phánswár*, strangler or nooser; *Qulandars*, monkey trainers (identical with our old friends "The Three Calendars"); *Gohárs* or iguana-catchers; *Sankat* or stone-cutter; the *Haboora*; the *Badhak*; the *Bhátū*; the *Baheliya* who is a fowler and hunter; the *Beriya* or *Bediya* who trades on his women and teaches them to sing and dance.

The fact that none of these tribes intermarry is used, particularly by those groups of predatory habits, as an ingenious argument to prove disassociation with one another. The fact, however, that none of these tribes do intermarry points to nothing more than that they are Endogamous sections of the one original family and at the same time disposes of a vulgar fallacy that a tribe or camp which will not give its daughters in marriage to another tribe must therefore be of a totally different caste.

The process of splitting up into various endogamous sections or clans encouraged by modern influences is in active progress at the present day. An equally interesting fact to the Sociological Anthropologist is the existence of Exogamy among all these casteless tribes. Each Endogamous section is divided up into several Exogamous septs or sub-sections. These facts surely point to a conclusion, which without any extravagant argument enables us to trace the present Hindu caste system back to the primeval laws which required and instituted and enforced a vigorous and rigid observance of the Exogamic law. There are besides, many hundreds of Exogamous septs and Endogamous circles which we can show to have an occupational,

local, Ethnic, or Eponymous, or Totemic origin. If then we eliminate totemism as a relic of the past and accept the Occupational theory of the origin of caste we can see for ourselves in active progress to-day among the casteless tribes of India such as this very Sirkhi Wallah group, a caste system in the making. And caste in India, in whatever form or direction its evolution, is dominated by the *jus connubii*. In short, the constant creation of separate connubial groups in modern Hinduism has its basis and origin in the instinct which taught man to seek his bride and secure her forcibly if necessary from another camp—which is marriage by capture—which is Exogamy in its most primitive form.

The Adjourned Meeting of the Medical Section of the Society was held at the Society's Rooms on Wednesday, the 13th March, 1912, at 9-30 p.m.

MAJOR L. ROGERS, C.I.E., I.M.S., in the chair.

The following members were present :—

Captain Green Armytage, I.M.S., Dr. U. N. Brahmachari, Dr. C. H. Elmes, Captain D. McCay, I.M.S., Captain A. H. Proctor, I.M.S., Captain H. B. Steen, I.M.S., Captain J. D. Sandes, I.M.S., Honorary Secretary.

Visitors:—Dr. J. N. Das, Dr. C. H. B. Thompson.

The minutes of the last meeting were read and confirmed.

I.—Capt. Proctor showed some Skiagrams of Fractures about joints.

II.—The following papers were read :—

1. *Some notes on the morbidity of lying-in cases in Calcutta.* —*By* CAPT. H. B. STEEN, I.M.S.

2. *A Case of Blackwater Fever.*—*By* DR. U. N. BRAMACHARI, M.A., M.D., Ph.D.

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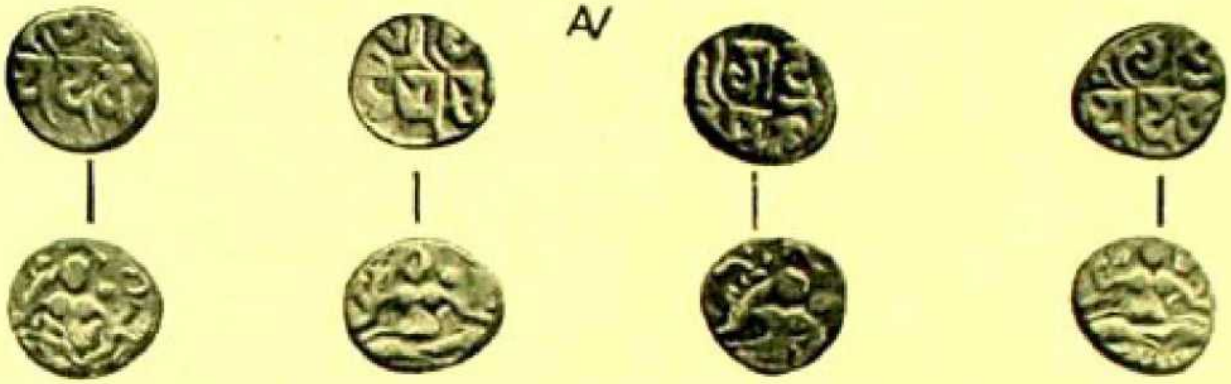

II

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III

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I. Coins of Gāṅgeya Deva. N. S. XVII, art. 101.
II. Rupees struck by George Thomas. N. S. XVII, art. 105.
III. Coins of Muzaffar Shāh of Bengal. N. S. XVI, art. 95.

APRIL, 1912.

The Monthly General Meeting of the Society was held on Wednesday, the 3rd April, 1912, at 9-15 p.m.

COLONEL G. F. A. HARRIS, C.S.I., President, in the chair.

The following members were present:—

Maulavi 'Abd u'l Wali, Dr. N. Annandale, Mr. A. C. Atkinson, Mr. H. S. Bion, Mr. I. H. Burkill, Babu Nilmani Cakravarti, Mr. F. H. Gravely, Mr. H. G. Graves, Captain E. D. W. Greig, I.M.S., Mr. D. Hooper, Rev. H. Hosten, S.J., Mr. W. Jessop, Mr. S. W. Kemp, Mr. C. C. Lomax, Lieut. F. H. Malyon, Lt.-Col. D. C. Phillott, Ph.D., Mahārāja Ranjit Sinha of Nasirpur, Dr. Satīś Candra Vidyābhūṣaṇa, Rev. J. Watt, Mr. H. P. Watts, Rev. A. W. Young.

Visitors:—Rev. Ameya, S.J., Mr. W. A. Burns, Mrs. Atkinson, Father Felix, Dr. F. Freyesleben, Mrs. C. L. Harley, Mr. A. H. Harley, Mrs. L. Jessop, Mr. G. Stadler, Mr. L. Stadler.

The minutes of the last meeting were read and confirmed.

Eighty-eight presentations were announced.

The General Secretary reported that Captain John Johnson Urwin, I.M.S., the Hon'ble Mr. Charles Evelyn Arbuthnot William Oldham, Mr. S. C. Williams, Dr. D. Quinlan, Mir Nasir Ali Khan Bahadur and Lieutenant G. M. Routh have expressed a wish to withdraw from the Society.

The President unveiled the bust of Alexander Csoma de Körös and gave the following short account of his life:—

ALEXANDER CSOMA DE KŐRÖS.

The bust which I have to unveil to-night is that of Körösi Csoma Sandor, better known as Alexander Csoma de Körös, who was, for many years, associated with the work of this Society.

A native of Hungary, born in the year 1784, that of the foundation of the Society by Sir William Jones, he early became imbued with a passion for Oriental studies, dreaming that, in the East, he would be able to trace the ancestry of the Magyars, and to the end he cherished the idea that, somewhere North of Lhasa, he would find the ancestral home of the Huns. He arrived in Tibet in 1822 when he was 38 years of age, having

made his way on foot from Hungary. He remained in that country or in its vicinity for nine years. Eventually he achieved his long-cherished desire of visiting Calcutta. While in Calcutta, he placed at the disposal of Government all the literary treasures he had accumulated in his travels. For four years, 1831-35, he lived in the Society's rooms and was engaged in making a *catalogue raisonnée* of Brian Hodgson's collection of Tibetan works. In 1834, his Tibetan dictionary and grammar appeared, the expenses being defrayed by Government. From 1835-37 he travelled in Eastern Bengal and Sikkim, perfecting his knowledge of Sanskrit and learning Bengali. In 1837 he returned to Calcutta, and for the next five years he resided in the Society's house in the capacity of Librarian, cataloguing the works which he had himself presented. During this period he contributed many articles to the Journal on the Geography, History and Literature of Tibet. In April 1842 he died at Darjeeling on his way to Lhasa, at the age of 58.

His habits were Spartan in their simplicity. He never used stimulants or tobacco. His food was tea with a little boiled rice. He possessed but one suit of clothes. His life and all this available funds were devoted to the objects for which this Society stands—the furtherance of Oriental learning in all its branches.

I am unfortunately unable to enlarge on his services to Oriental learning, but I can assure you that the Society has not been unmindful of his memory. His great Tibetan-Sanskrit-English dictionary is now appearing in the Memoirs, and a commemorative reprint of his articles in the Journal will be shortly published. His tomb at Darjeeling has been repaired and restored. The Hungarian Academy of Sciences still further to perpetuate his memory have presented us with this beautiful bust which, I am sure, you will all welcome as a representation of a great scholar and as a magnificent work of art, well worthy to rank with the numerous treasures the Society possesses.

The President drew attention of the meeting to the portrait of Sir Thomas Holland, K.C.I.E., offered to the Society, and read the following short note regarding him :—

SIR THOMAS HOLLAND, K.C.I.E., A.R.C.S., D.Sc., F.R.S., F.A.S.B.

After a distinguished career at the Royal College of Science, Sir Thomas Holland joined the Geological Survey of India in the year 1890. Passing through the various grades, he succeeded the late Mr. C. L. Griesbach as Director in 1903. He early joined this Society and served successively as Honorary General Secretary, Vice-President and President during 1909-10. For several years he represented the Society on the

Board of Trustees of the Indian Museum, of which body he was for some time Chairman. Although his scientific work was mainly published in official geological publications, he contributed to the Journal papers on Anthropology and often exhibited at the monthly meetings interesting geological specimens.

He was elected an F.R.S. in 1904, and was one of the first Fellows of the Society. In 1908 he was created a K.C.I.E., and the University of Calcutta conferred on him the honorary degree of Doctor of Science. He was also the first President of the Mining and Geological Institute of India.

This portrait by the Hon. John Collier, subscribed for by all classes of the community, has been offered to the Society for safe keeping, and will find a fit resting-place on the walls of this ancient institution with which he was so long connected.

The following gentlemen were balloted for as Ordinary Members:—

Capt. Sir George Duff-Sutherland-Dunbar, Bart., I.A., Commandant, Military Police, Lakhimpur, proposed by Dr. N. Annandale, seconded by Mr. S. W. Kemp; *Surgeon-Capt. Frederick F. MacCabe*, M.B., 4, Esplanade East, Calcutta, proposed by Mr. W. Kirkpatrick, seconded by Dr. A. S. Allan; *Habib-un-Naby Khan Saulat*, Instructor to Officers in their study of Oriental Languages, 64, Jhowtalla Road, Ballygunge, Calcutta, proposed by Lieut.-Colonel D. C. Phillott, seconded by Mr G. H. Tipper; *Prof. Kasi Nath Das*, proposed by Dr. Satis Chandra Vidyabhusana, seconded by Mahamahopadhyaya Haraprasad Shastri, C.I.E.; *Mr. William Alexander Burns*, Assistant Traffic Manager, Port Commissioners, 4, Metapukur Lane, proposed by Dr. N. Annandale, seconded by Mr. F. H. Gravely.

Rev. Fr. Felix exhibited Persian firmans granted to the Jesuits by the Mogal Emperors, and Tibetan and Newari firmans given to the Capuchin missionaries.

Mr. F. H. Gravely exhibited Indian blood-sucking insects and their natural enemies.

Mr. Burkill exhibited a specimen of *Croton sparsiflorus* (*Morung*) from Makum Junction on the Dibru-Sadiya Railway, in demonstration that this introduced plant has now reached the upper part of the Assam Valley. Its dispersal has been the subject of one paper and two notes in the Society's publications (Brühl in the Journal, 1908, p. 605; and Burkill in the Proceedings for 1910, p. ci, and for 1911, p. cxxxii). Mr. Burkill made the following further statements:—that the plant is now spreading from Narayanganj railway station, which it seems to have reached in 1909, along one of the roads in the town; that

it has become most abundant on the bank of the river Barák where the railway crosses it near Badarpur; that it is well established about some railway sidings on the bank of a small river near Juri railway station; and that it is now very abundant near the railway stations of Damcherra and Haringajao in the North Cachar hills.

In summary of all the notes to date, it may be said that up to the present time *Croton sparsiflorus* has obtained a place in the following districts:—Howrah, 24-Pergunnahs, Dacca, Tippera, Chittagong, Sylhet, Cachar, Nowgong, Kāmrūp and Lakhimpur.

The following papers were read:—

1. *The Pitt Diamond and the eyes of Jagannath (Puri).*—*By* Rev. H. Hosten, S.J.

2. *Padre Marco della Tomba and the Aśoka pillars near Bettiah.*—*By* Rev. H. Hosten, S.J.

These papers have been published in the *Journal* for March, 1912.

3. *Sodium Cuprous Thiosulphate with acetylene Cuprous acetylide. (Preliminary notice).*—*By* Kṣiti Bhuṣaṇ Bhāduri, M.Sc. *Communicated by* Dr. P. C. Ray.

This paper will be published in a subsequent number of the *Journal.*

4. *Śrīraṅgam Plates of Mummadi Nāyaka, Saka Samvat* 1280.—*By* T. A. Gopīnātha Rāo, M.A., *Trivandrum.*

5. *An Inscription of the reign of Devarāya I, Saka Samvat* 1336.—*By* T. A. Gopīnātha Rāo, M.A., *Trivandrum.*

6. *Two Copper-plate Grants of the time of Devarāya II, Saka Samvat* 1349.—*By* T. A. Gopīnātha Rāo, M.A., *Trivandrum.*

7. *Triplicane Plates of Devarāya II, Saka Samvat* 1350. —*By* T. A. Gopīnātha Rāo, M.A., *Trivandrum.*

8. *The Arivilimaṅgglam Plates of Śrīraṅgadevarāya, Saka Samvat* 1499.—*By* T. A. Gopīnātha Rāo, M.A., and T. S. Kuppusvami Sastri.

9. *The Dalavay Agraharam Plates of Venkatapatidva Mahārāja* (1), *Saka Samvat* 1508. *By* T. A. Gopīnātha Rāo, M.A., *Trivandrum.*

10. *The Chikuru Grant.*—*By* T. A. Gopīnātha Rāo, M.A., *Trivandrum.*

These seven papers will not be published in the *Journal.*

11. *The Author of the Bhattikavya.*—*By* Surendranāth Mazumdār. *Communicated by the Joint Philological Secretary.*

12. *A note on Kāsikā.*—*By* Surendranath Mazumdar. *Communicated by the Joint Philological Secretary.*

These two papers have been published in the *Journal* for February, 1912.

13. *The Persian Autobiography of Shāh Waliullah bin 'Abd-al-Rahīm al-Dihlavi: its English Translation and a list of his works.*—*By* Mawlavi M. Hidayet Husain.

14. *Materials for a Flora of the Malayan Peninsula, No. 23.*—*By* J. Sykes Gamble, C.I.E., M.A., F.R.S., *late of the Indian Forest Department. Communicated by the Natural History Secretary.*

This paper will be published in a subsequent number of the *Journal.*

The Adjourned Meeting of the Medical Section of the Society was held at the Society's Rooms on Wednesday, the 10th April, 1912, at 9·30 p.m.

Lieut.-Colonel A. H. Nott, M.D., I.M.S., in the chair.

The following members were present:—

Capt. G. Armytage, I.M.S., Dr. T. H. Bishop, Dr. A. Caddy, Lt.-Col. J. T. Calvert, M.B., I.M.S., Dr. K. K. Chatterji, Lieut.-Colonel B. H. Deare, I.M.S., Major E. D. W. Greig, M.B., I.M.S., Dr. W. C. Hossack, Capt. A. H. Proctor, I.M.S., Major L. Rogers, I.M.S., Capt. H. B. Steen, M.B., I.M.S., Capt. J. D. Sandes, I.M.S.

Visitors:—Dr. W. M. Haffkine, Dr. S. C. K. Le Cocq, Dr. T. G. Le Cocq, Dr. J. B. de Molony, Capt. J. H. Robinson, I.M.S.

The minutes of the last meeting were read and confirmed.

I. The presentation of the following books were announced:—

1. Clinical Cases, Vols. 1 to 6 (1902-3 to 1907-8); Indian Medical Gazette, Vols. 34 to 43 (1899—1907); Man, Vols. 1 to 3 (1901 to 1903).—By Major R. H. Maddox, I.M.S.

2. St. Thomas's Hospital Reports, Vols. 25—31, 33—36; Collected Works of Francis Sibson, edited by W. M. Ord, 4 Vols.; Clinical Society's Translations, Vols. 31 and 32.—By Capt. E. O. Thurston, I.M.S.

II. Clinical Cases—

(1) Col. Calvert showed a case of Acromegaly.

(2) Dr. Chatterji showed Skiagrams of a foot in a case of painful head showing a Spicule of bone, and demonstrated a case in which Bielricks' Scarlet had been used with success.

III. Dr. Hossack read a paper on Plague, and drew attention to the Suffolk and Manchurian Epidemics as confirmatory evidence of his theory of plague infection.

Major Rogers, Dr. Bishop and Col. Nott opposed the theory, and Dr. Hossack replied.

MAY, 1912.

The Monthly General Meeting of the Society was held on Wednesday, the 1st May, 1912, at 9-15 P.M.

D. HOOPER, ESQ., F.C.S., in the chair.

The following members were present :—

Maulavi 'Abdul Wālī, Dr. N. Annandale, Mr. A. C. Atkinson, Mr. J. Coggin Brown, Mr. J. A. Chapman, Mr. B. L. Chaudhuri, Mr. H. G. Graves, Dr. W. C. Hossack, Rev. H. Hosten, S.J., Mr. J. Insch, Mr. S. W. Kemp, Mr. W. Kirkpatrick, Mr. R. D. Mehta, C.I.E., Mr. C. S. Middlemiss, Capt. C. L. Peart, Mr. G. H. Tipper.

Visitors :—Mrs. Atkinson, Miss Callaway, Mrs. Insch.

The minutes of the last meeting were read and confirmed.

Twenty-one presentations were announced.

The General Secretary reported that Major J. G. P. Murray, I.M.S., had expressed a wish to withdraw from the Society.

The Chairman reported that the Council had appointed Major L. Rogers, C.I.E., I.M.S., as a Vice-President of the Society in the place of Lieut.-Colonel F. J. Drury, I.M.S., resigned.

The Chairman also reported that the Council had made the following appointments :—

1. Capt. C. L Peart as Philological Secretary in the place of Lieut.-Colonel D. C. Phillott, retired.

2. Capt. R. B. Seymour Sewell, I.M.S., as Anthropological Secretary in the place of Dr. N. Annandale, proceeding home.

The Chairman announced the presentations to the Indian Museum of the following fifteen sculptures presented by His Honour Sir William Duke, K.C.I.E., to the Society :—

1. Standing Sūrya.
2. Seated Buddha of the Mahā-Yānist school, in the *dharma-cakra-pravartana* posture.
3. Standing Buddha.
4. Standing Avalokiteśvara.
5. Seated Buddha ; representation of the *markaṭahrada* scene.
6. Seated Buddha in the Bhūmisparśa attitude.

7. Standing Mañjusrī (?), twelve-armed.
8. Head of a colossus.
9. Trinial of a Jaina figure.
10. Ditto.
11. Ditto.
12. Upper part of a Jaina image.
13. Jaina fragment representing a seated figure in a central niche.
14. Ditto ditto.
15. Portion of a string course or plinth carved with a row of elephants at the top ; probably from Kon-ar-ak.

The following gentlemen were balloted for as Ordinary Members : —

Mr. A. H. Harley, Principal, Calcutta Madrassa, proposed by Lieut.-Colonel D. C. Phillott, Ph.D., seconded by Dr. N. Annandale ; *Kumār Gopāl Rāo Govind*, Political Pensioner, Jaloun, proposed by Dr. Satish Chandra Banerji, seconded by Rai Bahadur Ram Saran Das ; *Mr. George Stradler*, Consul for Belgium, proposed by Dr. N. Annandale, seconded by Lieut.-Colonel D. C. Phillott, Ph.D. ; *Rai Bahadur Lalit Mohan Singha*, Zamindar of Chakdighi, 4, Creek Row, proposed by Dr. K. K. Chatterji, seconded by Babu Rakhal Das Banerji.

Dr. Annandale exhibited frogs and snakes brought by Mr. S. W. Kemp from the Abor foot-hills.

The collection exhibited forms a very interesting addition to our knowledge of the fauna of the Himalayas, illustrating a district (the eastern extremity of the great range) hitherto almost unknown. Specimens of at least 20 species of frogs, mostly arboreal in habits, were obtained, and of these over a third are new to science, while several (notably species of the two peculiar Burmese genera *Chirixalus* and *Phrynoderma*) are of considerable interest from a geographical point of view. No less than 23 kinds of snakes were obtained, including three apparently new to science, one of which represents a hitherto undescribed genus.

Mr. S. W. Kemp exhibited specimens of *Peripatus* from the lower Abor hills.

Peripatus is a very primitive Arthropod which shows relationships with both worms and insects. It had not previously been found within the limits of the Indian Empire nor, in the Eastern Hemisphere, in any locality north of the Malaya Peninsula. The specimens from the Abor country show some affinity with those from the latter region, but they evidently represent a species hitherto undescribed.

Rev. H. Hosten exhibited an Early Portuguese inscription.

The following papers were read :—

1. *A Comparative Vocabulary of the language of European Gypsies or Romnichal and colloquial Hindustani.—By* W. KIRKPATRICK.

This paper will be published in a subsequent number of the *Journal*.

2. *Surgeon Boughton and the grant of privileges to the English traders.—By* MAULAVI 'ABDUL WĀLI.

This paper has been published in the *Journal* for March 1912.

3. *Note on the secular cooling of the Earth and a problem in conduction of heat.—By* D. N. MALLIK, Sc.D., F.R.S.E., *Professor, Presidency College. Communicated by* HON. JUSTICE SIR ASUTOSH MUKHOPADHYAYA, KT.

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The Adjourned Meeting of the Medical Section of the Society was held at the Society's Rooms on Wednesday, the 8th May, 1912, at 9-30 P.M.

Major L. Rogers, C.I.E., I.M.S., in the chair.

The following members were present :—

Dr. Adrian Caddy, Lieut.-Col. J. T. Calvert, I.M.S., Dr. W. A. K. Christie, Major E. D. W. Greig, I.M.S., Dr. W. C. Hossack, Capt. R. B. Seymour Sewell, I.M.S., Capt. J. D. Sandes, I.M.S., Honorary Secretary.

Visitors :—D. McLean, Esq., Dr. J. B. Malony, Capt. F. B. Mackie, I.M.S., Dr. C. Pedler, Major J. W. F. Rait, I.M.S.

The minutes of the last meeting were read and confirmed.

I. The Chairman announced that Dr. Adrian Caddy had presented 53 Medical works, belonging to Dr. Arnold Caddy, to the Society's Library.

II. Capt. Sewell gave a demonstration of fish which eat mosquito larvae.

III. The following paper was read :—

Life Insurance in India.—By DR. ADRIAN CADDY.

JUNE, 1912.

The Monthly General Meeting of the Society was held on Wednesday, the 5th June, 1912, at 9-15 P.M.

MAHĀMAHOPĀDHYĀYA HARAPRASĀD ŚĀSTRI, C.I.E., Vice-President, in the chair.

The following members were present :—

Maulavi 'Abdul Wālī, Dr. L. L. Fermor, Mr. F. H. Gravely, Mr. D. Hooper, Mr. S. W. Kemp, Rev. W. R. LeQuesne, Surgeon-Captain F. F. MacCabe, Rev. N. Meldrum, Mr. George Stradler, Dr. Satīś Chandra Vidyābhūṣaṇa.

The minutes of the last meeting were read and confirmed.

Forty presentations were announced.

The General Secretary reported that Syed Nasir Hosain Khan, Capt. A. E. J. Lister, I.M.S., Mr. W. F. Baltan, Rev. A. C. Ridsdale, and Mr. J. H. Lindsay had expressed a wish to withdraw from the Society.

The following seven gentlemen were balloted for as Ordinary Members :—

Dr. Henry Thoreau Cullis, I.C.S., Registrar, High Court, Calcutta, proposed by Capt. C. L. Peart, seconded by Mr. H. G. Graves; *Mr. Stephen Demetriadi*, Merchant, 2/1 Russell St., proposed by Dr. G. D. Hope, seconded by Mr. D. Hooper; *Mr. David McLean*, Manager, Indian Phœnix Assurance Co., Ltd., proposed by Dr. W. A. K. Christie, seconded by Mr. G. H. Tipper: *Babu Champaran Misra*, Tahsildar, Kaisergunj, proposed by Mr. G. H Tipper, seconded by Mahāmahopādhyāya Haraprasād Śastrī, C.I.E.; *Major John Forbes Rait*, M.B., B.S. (Lond.), I.M.S., Superintendent, Campbell Hospital, Calcutta, proposed by Major L. Rogers, C.I.E., I.M.S., seconded by Capt. J. D. Sandes, I.M.S.; *Major Walter Valentine Coppinger*, M.B., B.Sc., F.R.C.S.I., I.M.S., Offg. Ophthalmic Surgeon, 18 Harrington St., proposed by Major L. Rogers, C.I.E., I.M.S., seconded by Capt. J. D. Sandes, I.M.S.; *Capt. Frederick Percival Mackie*, F.R.C.S., I.M.S., on special duty Shillong, proposed by Major L. Rogers, C.I.E., I.M.S., seconded by Capt. J. D. Sandes, I.M.S.

The following papers were read :—

1. *The Mirzā Nāmah (The book of the perfect Gentleman) of Mirzā Kamran.—By* MAULAVI M. HIDAYAT HUSAIN.

This paper will be published in a subsequent number of the *Journal*.

2. *An investigation into the Ayurvedic Method of purifying Mercury by Allium-Sativum or Garlic Juice.—By* Manindra Nath Banerji. *Communicated by* Mr. D. Hooper.

This paper will not be published.

3. *The Chank Bangle Industry.—By* James Hornell. *Communicated by* Dr. N. Annandale.

This paper will be published in the *Memoirs*.

4. *Larvicides in action.—By* Surgeon-Captain F. F. MacCabe, M.B., B.Ch.

This paper will not be published.

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The Adjourned Meeting of the Medical Section of the Society was held at the Society's Rooms on Wednesday, the 12th June, 1912, at 9-30 P.M.

Major L. Rogers, C.I.E., I.M.S., Vice-President, in the chair.

The following members were present :—

Major W. V. Coppinger, I.M.S., Dr. Birendra Nath Ghose, Major E. D. W. Greig, I.M.S., Major E. A. R. Newman, I.M.S., Capt. J. D Sandes, I.M.S. (Hony. Secy.).

The minutes of the last meeting were read and confirmed.

1. Clinical cases were shown :—

(*a*) A case of Spastic Paraplegia with great spasticity, the result of syphilis—Antero-Lateral Sclerosis. Symptoms came on a year after 606 injection.

(*b*) A case of undescended testicle treated by suturing to Fascia Lata.

(*c*) A case of Purpura Rheumatica.

2. The following paper was read :—

Diseases of the Kidneys, forming no. vi. of the "Gleanings from the Calcutta Post-Mortem Records."—By Major L. Rogers, C.I.E., I.M.S., and discussed by Major Newman.

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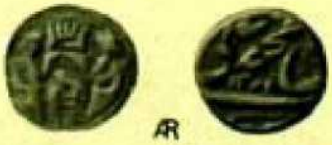

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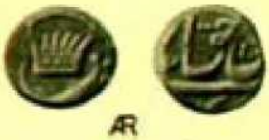

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JULY, 1912.

The Monthly General Meeting of the Society was held on Wednesday, the 3rd July, 1912, at 9-15 p.m.

MAHAMAHOPADHYAYA HARAPRASAD SHASTRI, C.I.E., Vice-President, in the chair.

The following members were present :—

Maulavi Abdul Wali, Mr. A. C. Atkinson, Rev. P. O. Bodding, Babu Nilmani Chakravarti, Mr. B. L. Chaudhuri, Dr. L. L. Fermor, Mr. F. H. Gravely, Mr. H. G. Graves, Babu Amulyacharan Ghosh Vidyabhusana, Rev. H. Hosten, S.J., Mr. J. Insch, Babu Padamraj Jain, Mr. W. Jessop, Mr. S. W. Kemp, Mr. W. Kirkpatrick, Mr. G. Stadler, Rai Bahadur Lalit Mohan Singha Ray, Dr. Satis Chandra Vidyabhusana, Rev. J. Watt, Rev. A. W. Young.

Visitors :—Mr. E. A. Andrews, Lieut. T. L. Bomford, I.M.S., Mr. J. M. Dutt, Babu Satis Chandra Roy Chaudhuri.

The minutes of the last meeting were read and confirmed.

Fifty-one presentations were announced.

The Chairman announced :—

1. That Mr. S. W. Kemp had been appointed to act as General Secretary in the place of Mr. G. H. Tipper, gone home.

2. That Capt. C. L. Peart had been appointed Officer-in-Charge of the Search for Arabic and Persian MSS.

3. That the Trustees of the Elliott Prize for Scientific Research had awarded two prizes for the year 1911—one to Babu Jitendra Nath Rakshit, for his essay entitled "Preparation of Potassium carbonate and Potassium bicarbonate on a large scale from Nitre," and another to Babu Jatindra Mohan Datta, for his essay entitled "A few Ketonic dyes."

As both the recipients were present, the Chairman handed the Medal, with Rs. 110 in cash, to each of them.

The General Secretary laid on the table the following progress report of the Linguistic Survey of India, up to the end of the year 1911, by Dr. (now Sir) G. A. Grierson, presented to the XVIth International Congress of Orientalists held at Athens on 7th to 14th April, 1912 :—

XVIth INTERNATIONAL CONGRESS OF ORIENTALISTS.

Progress Report of the Linguistic Survey of India, up to the end of the Year 1911.

The following is a list of the volumes of the Survey, showing the state at which each has arrived :—

Vol. I. Introduction. This cannot be touched until all the other volumes have been printed and indexed.

Vol. II. Mōn-Khmēr and Tai Families.
Vol. III. Tibeto-Burman family. In three parts.
Vol. IV. Muṇḍā and Dravidian families.
Vol. V. Indo-Aryan languages, Eastern group. In two parts.
Vol. VI. Indo-Aryan languages, Mediate group.
Vol. VII. Indo-Aryan languages, Southern group.

(These have all been printed and published.)

Vol. VIII. Indo-Aryan languages, North-Western group. A portion in type, and the rest nearly ready for the press.

Vol. IX. Indo-Aryan languages, Central group :—

Part I. Western Hindī and Panjābī. In the press.
Part II. Rājasthānī and Gujarātī.
Part III. Bhīl languages, etc.

(Part II. and Part III. Printed and published.)

Part IV. Himalayan languages. In the press.

Vol. X. Eranian languages. The greater part in type. A small portion remaining to be written.

Vol. XI. Gipsy languages. This has been prepared by Dr. Konow, and is ready for the press.

It will thus be seen that the Survey, save for the Introductory volume, is nearly completed. Only a few months' work remains. As for what has not already been published, the following remarks may be of interest.

Vol. XIII covers the whole of North-Western India, and deals with Sindhī, Lahndī, and the Piśācha languages (including Kāshmīrī) spoken between the north-western frontier of India proper and the Hindū Kush. With the exception of Kāshmīrī, all the Piśācha languages have been disposed of, and the section dealing with them is in type. Lahndī, by far the heaviest section, is completed, except for a couple of

dialects, regarding which it has been found necessary to make reference to India. Sindhī, which will require but a short section, has not yet been touched. All, therefore, of this volume that remains to be done is Sindhī, two dialects of Lahndī, and Kāshmīrī.

As regards Volume IX (Eranian languages), two forms of speech remain untouched, viz. Bilōchī and Ormūrī. The latter is a most interesting, but little known, language spoken in Wazīristān. I have been fortunate enough to obtain excellent materials, and hope to be able to give a fairly complete account of it. I have already drafted a grammar and vocabulary. Although distinctly a member of the Eranian family, it also shows points of agreement with the Piśācha languages of the Hindū Kush country. It may here be remarked that Khētrānī, a dialect of the Indo-Aryan Lahndī, also shows signs of similar agreement. The rest of this volume, dealing with the Ghalchah languages, Pushtō, and some local varieties of Persian, has long been in type.

As regards Volume IX, the parts dealing with Rājasthānī, Gujarātī, and the Bhīl languages have already been published. The part for Western Hindī and Panjābī has long been ready for the press, but difficulties connected with the preparation of special oriental type have delayed its appearance. Part IV has lately been completed in MS., and gone to press. It deals with the Indo-Aryan languages of the Himālaya from Darjeeling, in the east, to beyond Chambā, in the west. These have been divided into three languages, or groups of dialects, which (proceeding from east to west) I name, respectively, Eastern Pahāṛī or Naipālī, Central Pahāṛī, and Western Pahāṛī.

These Pahāṛī languages exhibit points of great interest, both to the ethnologist and to the philologist. In Eastern Pahāṛī we have an Indo-Aryan language spoken by a dominant class, comparatively few in number, amidst a population whose speech is Tibeto-Burman. In such a case, we should expect to find many instances of Tibeto-Burman loan-words, but this does not occur to any large extent. On the other hand, the grammar is greatly influenced, and we find this Indo-Aryan language adopting a system of conjugation and rules of syntax which are essentially Tibeto-Burman. For instance, as in Tibeto-Burman, there is a special impersonal conjugation of every verb, giving an honorific sense; and the subject of a transitive verb in any tense (not only the past tense) is put into the case of the agent.

Central Pahāṛī is the language of Kumaun and Garhwāl. The many dialects can conveniently be grouped under the two language names of Kumaunī and Garhwālī. The speakers of Eastern Pahāṛī call themselves "Khas," and the principal dialect of Kumaunī is called *Khas-parjiyā*, or "the speech

of the Khas-people." The main cultivating population of Kumaun and Garhwāl belongs to the Khas tribe. Western Pahāṛī is the name given to the group of dialects between Garhwāl, on the east, and Jammū and Kashmīr, on the west. It includes the vernacular language of the country round Simla.

The tract over which Central and Western Pahāṛi are spoken closely corresponds to the ancient Sapādalaksha,[1] the country from which in old times the Gurjaras migrated to populate North-Eastern Rājputānā (Mēwāt and Jaipur). Dr. Bhandarkar has shown that the Rājpūts are the modern representatives of ancient Gurjaras who adopted the profession of arms, the remainder, who adhered to the tribal pastoral life, retaining the old name of "Gurjara," or, in modern times, "Gūjar."

The Khas tribe of the Central Pahāṛī tract represents the ancient Khasas, regarding whom much has been written, but little definitely proved. The cultivating population of the Western Pahāṛī tract calls itself "Kanēt," not "Khas"; but the Kanēts are divided into two classes, one of which, the lower in status, bears the name of "Khas." The other class, of higher status, calls itself "Rāo," and claims, as the name implies, to be of impure Rājpūt descent.

The language spoken in the three Pahāṛī tracts is, as is well known, connected with Rājasthānī, and when the Pahāṛī volume appears, it will be seen that it agrees most closely with the dialects of North-Eastern Rājputānā—Mēwātī and Jaipurī. But throughout there are traces of another form of speech belonging to the North-Western group, which I call "Piśācha." These traces are slight in Eastern Pahāṛī, strong in Central Pahāṛī, and very strong in Western Pahāṛī.

The state of affairs is further complicated by the fact that in the extreme north-west, amongst Piśācha-speaking peoples—in the distant hills of Ṣwāt and Kashmīr—there are at the present day wandering tribes of Gūjar cattle tenders and shepherds, who have a language of their own quite different from that of the people among whom they dwell. This language also closely resembles the Rājasthānī of Mēwāt and Jaipur.

Although it is unsafe to base ethnological theories on linguistic facts, I think that when Part IV of Volume IX of the Linguistic Survey is published, it will be seen that the following theory is at least not inconsistent with the linguistic facts as we now observe them.

I suggest that the earliest known Indo-Aryan, or Aryan inhabitants of the Himālaya tract, known as Sapādalaksha, were the Khaśas. These spoke a language akin to what are now the Piśācha languages of the Hindū Kush. They are now

[1] See Dr. Bhandarkar, in *Indian Antiquary*, XL (1911), 28. The name still survives in the "Sawālākh" Hills.

represented in the Western Pahāṛī tract by the Khas clan of the Kanēts, and in the Central Pahārī tract by the Khas tribe, which forms the bulk of the cultivating population.

In later times the Khaśas were conquered by the Gurjaras. The Gurjaras are now represented by the Rājpūts of the whole Sapādalaksha tract, and also by the Rāo clan of the Kanēts, which represents these Gurjaras who did not take to warlike pursuits, but remained cultivators. Hence their claim to be of impure Rājpūt descent. In Garhwāl and Kumaun, where (for our present purposes) there are only Rājpūts and Khaśas, the cultivating Gurjaras became merged in the general Khas population. Over the whole of this Sapādalaksha tract the Gurjaras and the Khaśas gradually amalgamated, and they now speak one language, mainly Gurjarī, but also bearing traces of the speech of the original Khaśa population.

As Dr. Bhandarkar has shown, many of these Sapādalaksha Gurjaras migrated into Rājputānā, carrying their language with them, which there developed into Rājasthānī. In the subsequent centuries there was constant communication between Rājputānā and Sapādalaksha, and, under the pressure of Mughul domination, there ultimately set in a considerable tide of emigration back from Rājputānā into Sapādalaksha. These immigrants were received with all the prestige of the high position to which they had attained in the social system of the Indian Plains. The foundation by them of various Hill States is a matter of history and need not here detain us, but, from a linguistic point of view, the important fact is that they still further strengthened the Rājasthānī element in the Pahāṛī dialects.

There remain the nomadic Gūjars of the north-western hills. Their presence is accounted for as follows:—We have seen that those Gurjaras who did not take to warlike pursuits, but adhered to their pastoral occupation, retained the name and social status of Gurjaras or Gūjars. During the period in which Rājpūt rule became extended over the Panjāb, the Rājpūt fighting men were accompanied by their humbler pastoral brethren, and we now find a line of Gūjar colonization running from Mēwāt (the "Gujarāt" of Albirūni) up both sides of the Jamna valley, and thence following the foot of the Panjāb Himālaya, right up to the Indus. Where they have settled in the plains they have abandoned their own language and speak that of the surrounding population, but as we enter the lower hills we invariably come upon a dialect locally known as "Gujarī." In each case this can best be described as the language of the people nearest the local Gujars, but badly spoken, as if by foreigners. The further we go into these sparsely populated hills, the more independent do we find the Gūjar dialect, and the less is it influenced by its surroundings. At length, when we get into the wild hill-country of Ṣwāt and

Kashmīr, the nomad Gūjars are found still pursuing their pastoral avocations, and still speaking the language their ancestors brought with them from Mēwāt. But even this shows traces of its long journey. For these Gūjars, wandering over hills where the resident population speaks either Pushtō or some Piśācha dialect, and separated from the Jamnā by the wide plains of the Panjāb, over which either Lahndī or Panjābī is the universal tongue, speak a language, which, though nearly the same as Mēwātī, also contains, like flies in amber, odd phrases and idioms belonging to the Hindōstānī of the Jamnā valley. These they could not have taken from Pushtō or from Piśācha. These are strangely alike to Lahndī and Punjābī. These do not occur in Mēwātī, and they clearly show that the Gūjars, on their way to Ṣwāt and Kashmīr, must, at one period of their wanderings, have lived in the Jamnā valley.

GEORGE A. GRIERSON.

CAMBERLEY,
8th February, 1912.

The following four gentlemen were balloted for as Ordinary Members :—

Babu Bodhisathva Sen, M.A., B.L., Vakil, High Court, 91, Durga Charan Mittra's Street, Calcutta, proposed by Mr. G. H. Tipper, seconded by Babu Rakhal Das Banerjee ; *Mr. Everard Digby*, B.Sc. (London), Manager, Associated Press of India, 1, Garstin's Place, Calcutta, proposed by Hon. Justice Sir Asutosh Mukhopadhyaya, Kt., seconded by Mr. H. G. Graves ; *Lieut. T. L. Bomford*, I.M.S., Officiating Surgeon-Naturalist, Indian Museum, Calcutta, proposed by Capt. R. B. Seymour Sewell, I.M.S., seconded by Mr. S. W. Kemp ; *Mr. Egbert A. Andrews*, Entomologist, Indian Tea Association, Tocklai, Cinnamara P.O., Jorhat, Assam, proposed by Mr. S. W. Kemp, seconded by Mr. F. H. Gravely.

Mr. F. H. Gravely exhibited Pedipalpi from Caves near Moulmein.

Mr. S. W. Kemp exhibited bowls from the Abor country.

The following papers were read :—

(1) *The Date of Varaha Mihira's Birth.—By* BRAJALAL MUKERJEE.

(2) *An old Buddhist Commentary on Amarakosa.—By* MAHAMAHOPADHYAYA SATIS CHANDRA VIDYABHUSANA, M.A.

(3) *Theories to explain the origin of the Vison Family.—By* MAHAMAHOPADHYAYA HARAPRASAD SHASTRI, C.I.E., M.A.

These two papers will be published in a subsequent number of the *Journal*.

The Adjourned Meeting of the Medical Section of the Society was held at the Society's Rooms on Wednesday, the 10th July, 1912, at 9-30 p.m.

COLONEL G. F. A. HARRIS, C.S.I., President, in the chair.

The following members were present :—

Dr. C. A. Bentley, Lieut. T. L. Bomford, I.M.S., Lieut.-Colonel W. J. Buchanan, I.M.S., Dr. Adrian Caddy, Lieut.-Colonel J. T Calvert, I.M.S., Dr. Gopal Chandra Chatterjee, Dr. K. K. Chatterjee, Major W. V. Coppinger, I.M.S., Dr. H. M. Crake, Lieut.-Colonel B. H. Deare, I.M.S., Dr. C. H. Elmes, Major E. D. W. Greig, I.M.S., Dr. W. C. Hossack, Surgeon-Capt. F. MacCabe, Dr. Indumadhab Mallick, Capt. D. McCay, I.M.S., Lieut.-Colonel A. H. Nott, I.M.S., Major J. W. F. Rait, I.M.S., Major L. Rogers, C.I.E., Capt. H. B. Steen, I.M.S., Capt. J. D. Sandes, I.M.S.

Visitors :—Dr. J. B. Malony, Dr. B. C. Roy, Dr. U. C. Sen Gupta, Major F. Smith, I.M.S., Dr. T. Sur.

The minutes of the last meeting were read and confirmed.

1. Clinical cases were shown :—

(*a*) Col. Calvert showed a case of Spastic Paraplegia.

(*b*) Dr. Chatterjee showed cases of Liver abscess and Splenic abscess treated by emetin with recovery. Also a case of removal of fish bones from the throat by Oesophagotomy.

(*c*) Dr. Gopal Chatterjee showed a case of Filariasis treated by 606 injection intramuscularly with excellent results and apparent recovery. Also a case of Tuberculosis of spine treated by Tuberculin injections. These cases were discussed by those present.

2. The following paper was read :—

Malaria according to the newer researches.—By DR. C. A. BENTLEY.

He drew attention to certain generalisations. Malaria, a normal condition to many in certain countries. Practically all population affected but only those in certain well-defined conditions show sign of the disease. Tolerance. He concluded that an ordinary method of quinine and mosquito-destruction are only of mild importance and that education and a higher standard of living were the main features that should be advocated. Dr. Hossack agreed with Dr. Bentley, Major Greig and Major Smith, and Dr. Chatterjee also spoke. Dr. Bentley replied.

AUGUST, 1912.

The Monthly General Meeting of the Society was held on Wednesday, the 7th August, 1912, at 9-15 p.m.

MAHAMAHOPADHYAYA HARAPRASAD SHASTRI, C.I.E., Vice-President, in the chair.

The following members were present:—

Maulavi Abdul Wali, Mr. J. Coggin Brown, Mr. F. H. Gravely, Mr. D. Hooper, Dr. W. C. Hossack, Rev. H. Hosten, S.J., Mr. S. W. Kemp, Mr. R. D. Mehta, C.I.E., Rai Bahadur Lalit Mohan Singha Ray, Mr. G. Stadler, Dr. Satis Chandra Vidyabhusana, Rev. J. Watt.

Visitor:—Dr. S. B. Mehta.

The minutes of the last meeting were read and confirmed.

Thirty-one presentations were announced.

The General Secretary reported that Mr. W. S. Milne, I.C.S., Major H. W. Gratten, R.A.M.C., and Major V. E. H. Lindesay, I.M.S., had expressed a wish to withdraw from the Society.

The following three gentlemen were balloted for as Ordinary Members:—

Babu Atul Behari Ghosh, Vakil, High Court, proposed by Hon. Mr. Justice J. G. Woodroffe, seconded by Col. G. F. A. Harris, C.S.I.; *Mr. P. S. Ramaiu Chetty*, Landed Proprietor, 5, Strotten Moollia Moodelly Street, Madras, proposed by Babu Rakhal Das Banerjee, seconded by Mahamahopadhyaya Haraprasad Shastri; and *Syed Abdulla-ul-Musawy*, B.A., Zemindar, Bohar, District Burdwan, proposed by Maulavi M. Hidayat Hosain, seconded by Dr. Satis Chandra Vidyabhusana.

Mr. D. Hooper exhibited a specimen of the fat of a tiger (*Felis tigris*) received from Mourbhanj.

Tiger's fat has a considerable local reputation as a healing remedy for ulcers and skin affections. The sample is somewhat decomposed and has an acid value of 133. The chemical and physical constants are:—Specific gravity at 40°C., 0·8912; melting point 35°; saponification value 200·8; iodine value 57·7; 95 per cent of fatty acids melting at 37·5°; neutralisation value 208·2, consisting principally of oleic and palmitic acids. The fat is related to that of the wild cat (*F. catus*) and domestic cat (*F. domestica*) examined by Amthor and Zink (*Chem. Zeitung* 1906-54).

The following papers were read :—

1. *Firoz Shah's Tunnels at Delhi.—By* Rev. H. Hosten, S.J.

2. *A Note on Bhatti.—By* Mahamahopadhyaya Haraprasad Shastri, C.I.E.

3. *Who were the Sungas?—By* Mahamahopadhyaya Haraprasad Shastri, C.I.E.

4. *Two more new species of Gramineae from Bombay.—By* R. K. Bhide, Assistant Economic Botanist, Bombay. *Communicated by the Natural History Secretary.*

5. *A measure of Chemical Affinity.—By* Manindra Nath Banerji. *Communicated by* Hon. Justice Sir Asutosh Mukherji, Kt.

This paper will not be published in the *Journal.*

6. *The Mouthless Indians of Megasthenes.—By* Rev. H. Hosten, S.J.

7. *Account of an Expedition among the Abors in* 1853.—*By* Rev. Fr Nicholas Krich, *of the Foreign Missions of Paris. Translated by* Rev. A. Gille, S.J. *Communicated by the General Secretary.*

This paper will be published in a subsequent number of the *Journal.*

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The Adjourned Meeting of the Medical Section of the Society was held at the Society's Rooms on Wednesday, the 14th August, 1912, at 9-30 p.m.

Major L. Rogers, C.I E., I.M.S., in the chair.

The following members were present :—

Lieut.-Colonel B. H. Deare, I.M.S., Dr. H. Finck, Major D. McCay, I.M.S., Captain J. D. Sandes, I.M.S., Honorary Secretary.

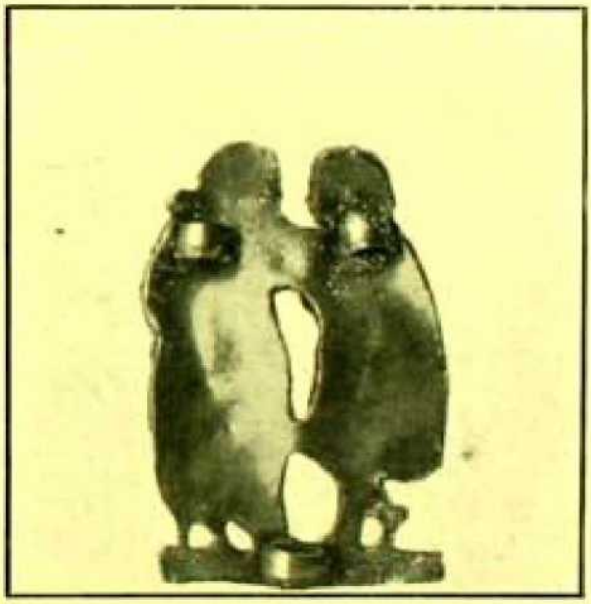
The minutes of the last meeting were read and confirmed

The following papers were read :—

1. *Gleanings from the Calcutta Post-Mortem Records, No. VII. Disease of the Nervous System.—By* Major L. Rogers, C.I.E., I.M.S.

2. *Notes on some cases of Nervous Diseases.—By* Lieut.-Colonel B. H. Deare, I.M.S.

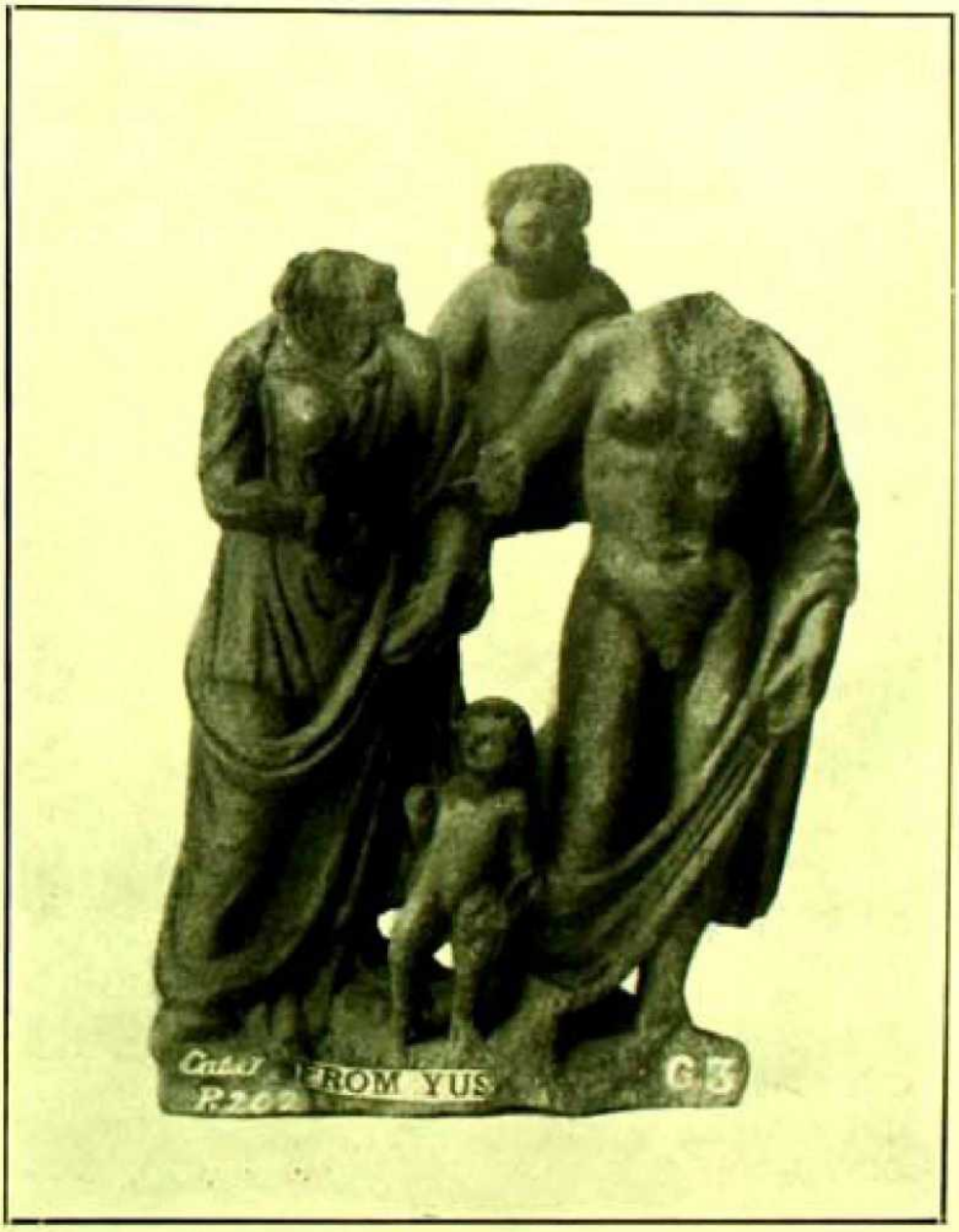
FRONT



BACK

BACCHANALIAN FIGURES.

GOLD ORNAMENT
FROM THE N. W. FRONTIER.



BACCHANALIAN FIGURES.

FROM ZUSUFZAI.

INDIAN MUSEUMN COLLECTION NO. G. 3.

BACCHANALIAN FIGURES.

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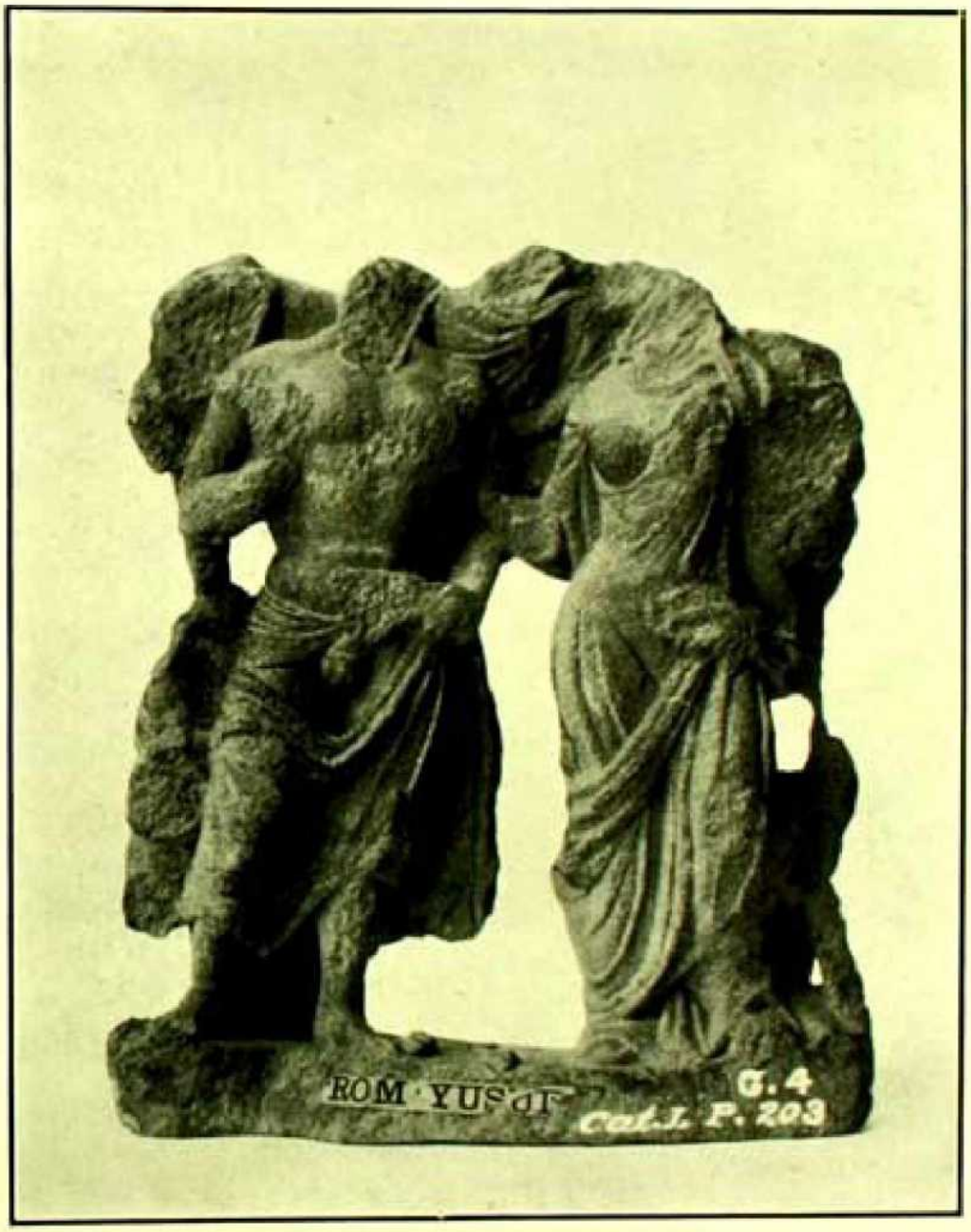

BACCHANALIAN FIGURES.

INDIAN MUSEUMN COLLECTION NO. G. 4.

BACCHANALIAN FIGURES.

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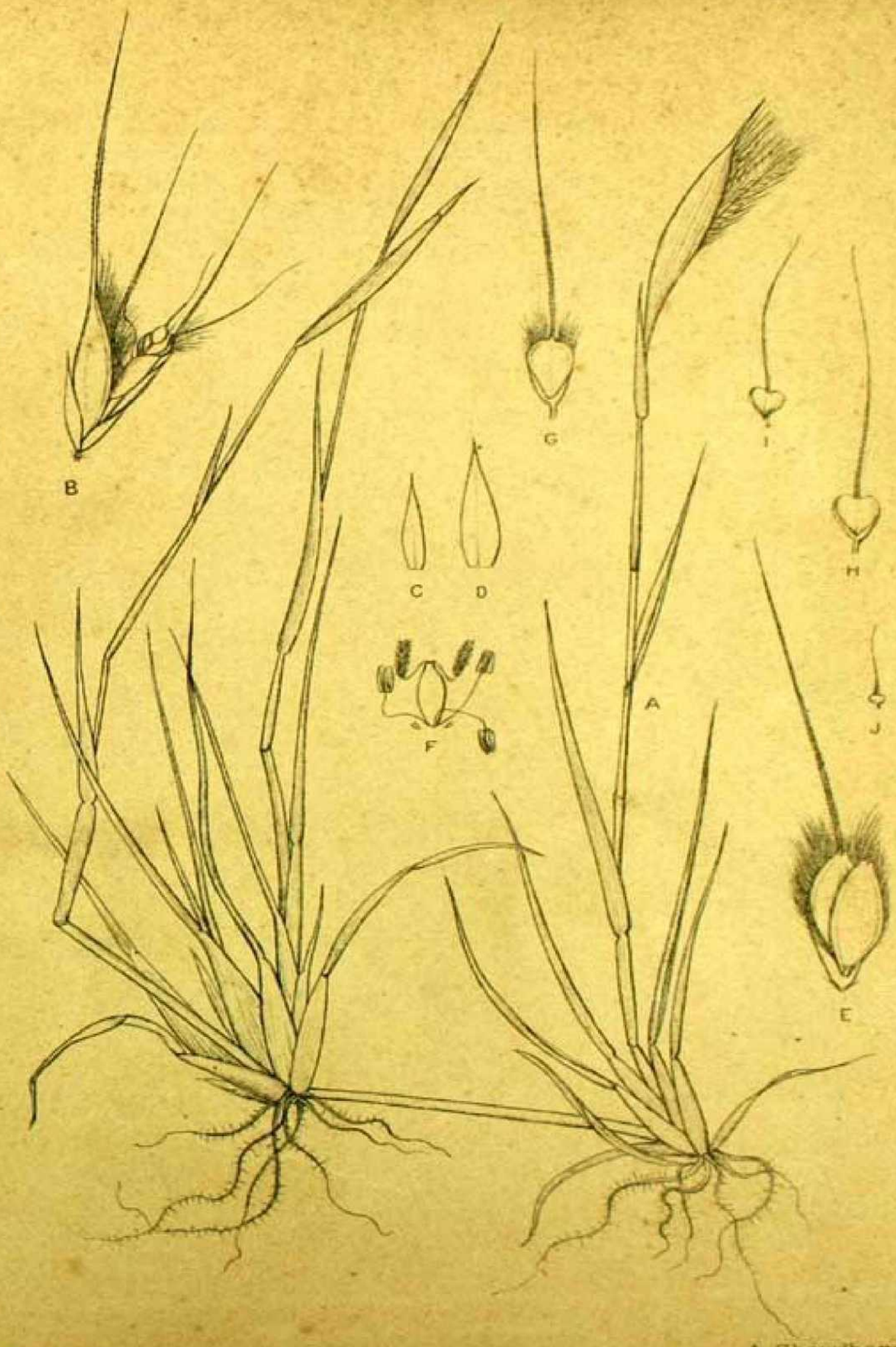
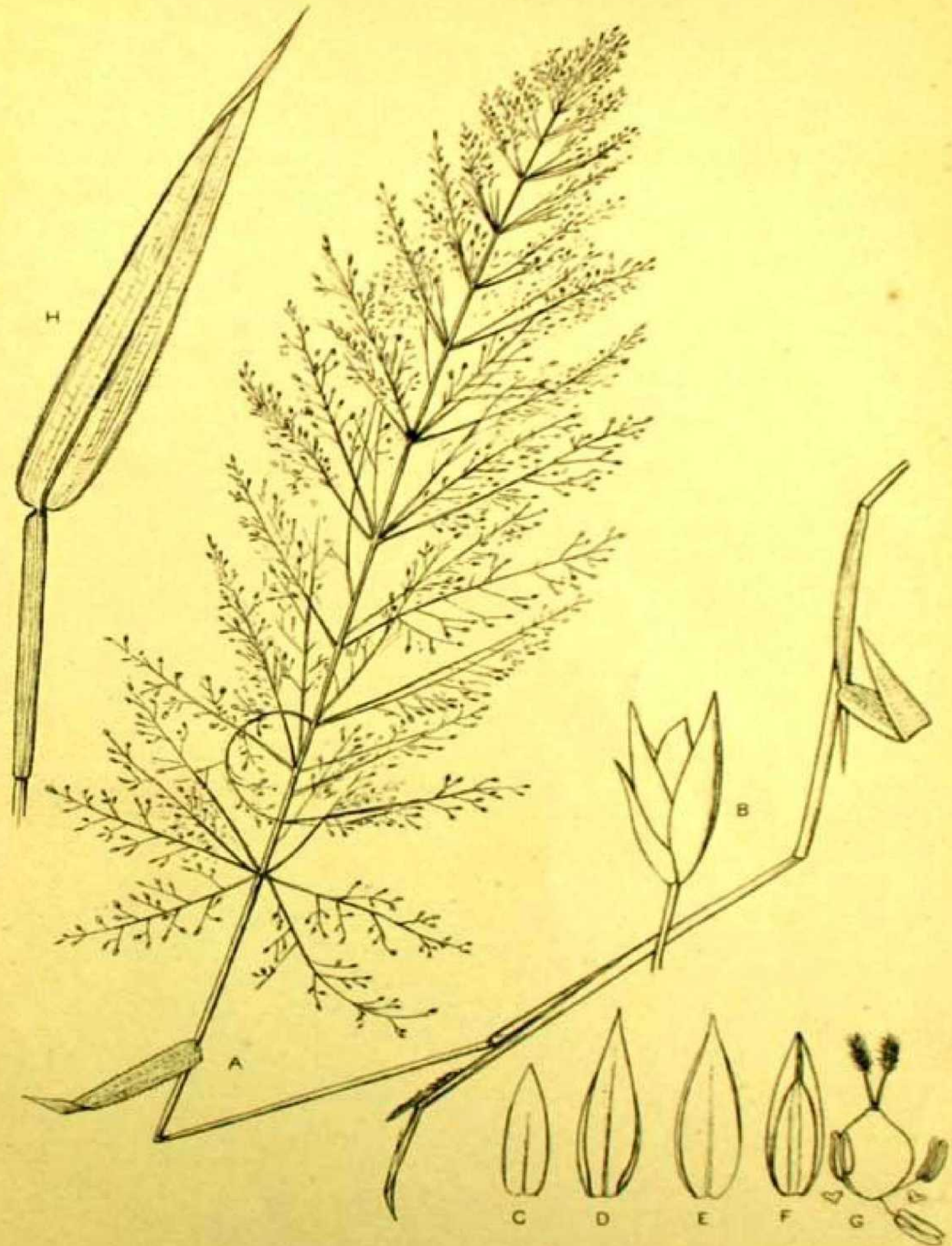


R. K. Bhide, del. A. Chowdhary, lith.



R K Bhide, del. A Chowdhary, lith.

SEPTEMBER, 1912.

The Monthly General Meeting of the Society was held on Wednesday, the 4th September, 1912, at 9-15 p.m.

COLONEL G. F. A. HARRIS, C.S.I., President, in the chair.

The following members were present:—

Maulavi Abdul Wali, Mr. A. C. Atkinson, Dr. Sivanath Bhattacharji, Lieut. T. L. Bomford, I.M.S., Mr. J. Coggin Brown, Mr. G. de P. Cotter, Dr. W. A. K. Christie, Mr. E. Digby, Dr. L. L. Fermor, Mr. H. G. Graves, Mr. H. H. Hayden, C.I.E., Mr. D. Hooper, Rev. H. Hosten, S.J., Mr. J. Insch, Mr. V. H. Jackson, Mr. W. Jessop, Mr. H. C. Jones, Mr. S. W. Kemp, Rev. W. R. LeQuesne, Mr. R. D. Mehta, C.I.E., Capt. R. B. Seymour Sewell, I.M.S., Mahāmahopādhyāya Haraprasād Śāstrī, C.I.E., Rev. J. Watt.

Visitors:—Mr. R. C. Burton, Mr. O. G. Haarbleicher, Mrs. Insch, Mr. E. H. Pascoe.

The minutes of the last meeting were read and confirmed.

Twenty-six presentations were announced.

The General Secretary reported the death of Babu Nobin Chandra Bural and Babu Mohendra Nath De.

The following two gentlemen were balloted for as Ordinary Members:—

Bahadur Singh Singhi, Zemindar and Banker, Azimganj, District Murshidabad, proposed by Babu Rakhal Das Banerji, seconded by Mahāmahopādhyāya Haraprasād Śāstrī, C.I.E.; *Mr. T. P. Ghosh*, Zemindar, Kidderpore, Calcutta, proposed by Hon. Justice Sir Asutosh Mukhopadhyaya, Kt., seconded by Dr. Satis Chandra Vidyabhusana.

Mahāmahopādhyāya Haraprasād Śāstrī exhibited the genealogical tree of the Rāthor family and of a photograph of Shihoji, the Founder of the family.

A complete genealogical tree of the Rāṭhor family of Rājputs, giving the lineage of the Rājās of Jodhapura, Bikānir, Kiṣengarh and Rutlam, prepared under the direction of a far-famed bard of Rājputānā, Barhat Bala Box of Hanuta in Jaipur from Rao Shiho, the founder of the family, with a portrait of Shiho on horseback and that of his wife Pārvati, who died a satī.

Mahāmahopādhyāya Haraprasād Śāstrī also exhibited some manuscripts of the 12th century.

A manuscript of Prajñāpāramitāsata-sāhasrikā-ratna-samcayagāthā in 84 chapters, written in mixed Sanskrit entirely in verse. Translated into Chinese in A.D. 981. The present manuscript copied in A.D. 1175.

Govindarāja, the son of Mādhava Bhaṭṭa, is well known as a commentator of Manu. It is not commonly known that he wrote a complete code of Hindu Law. Such a code has been found, copied in the year 1145. This is the earliest code of Hindu Law yet known.

Mr. S. W. Kemp exhibited photographs (lantern slides) taken in the Abor country.

The following papers were read:—

1. *Preliminary Note on the Origin of Meteorites.—By* L. L. Fermor, D.Sc., A.R.S.M., F.G.S.

2. *Remarks on the Tibetan Manuscript Vocabularies in the Bishop's College, Calcutta.—By* Rev. Fr. Felix, O.C. *Communicated by* Rev. H. Hosten, S.J.

3. *Earliest Jesuit Printing in India—From the Spanish of Fr. C. Gomez Rodeles, S.J.—By* Fr. L. Cardon, S.J. *Communicated by* Rev. H. Hosten, S.J.

4. *Bakhshali Manuscript.—By* G. R. Kaye.

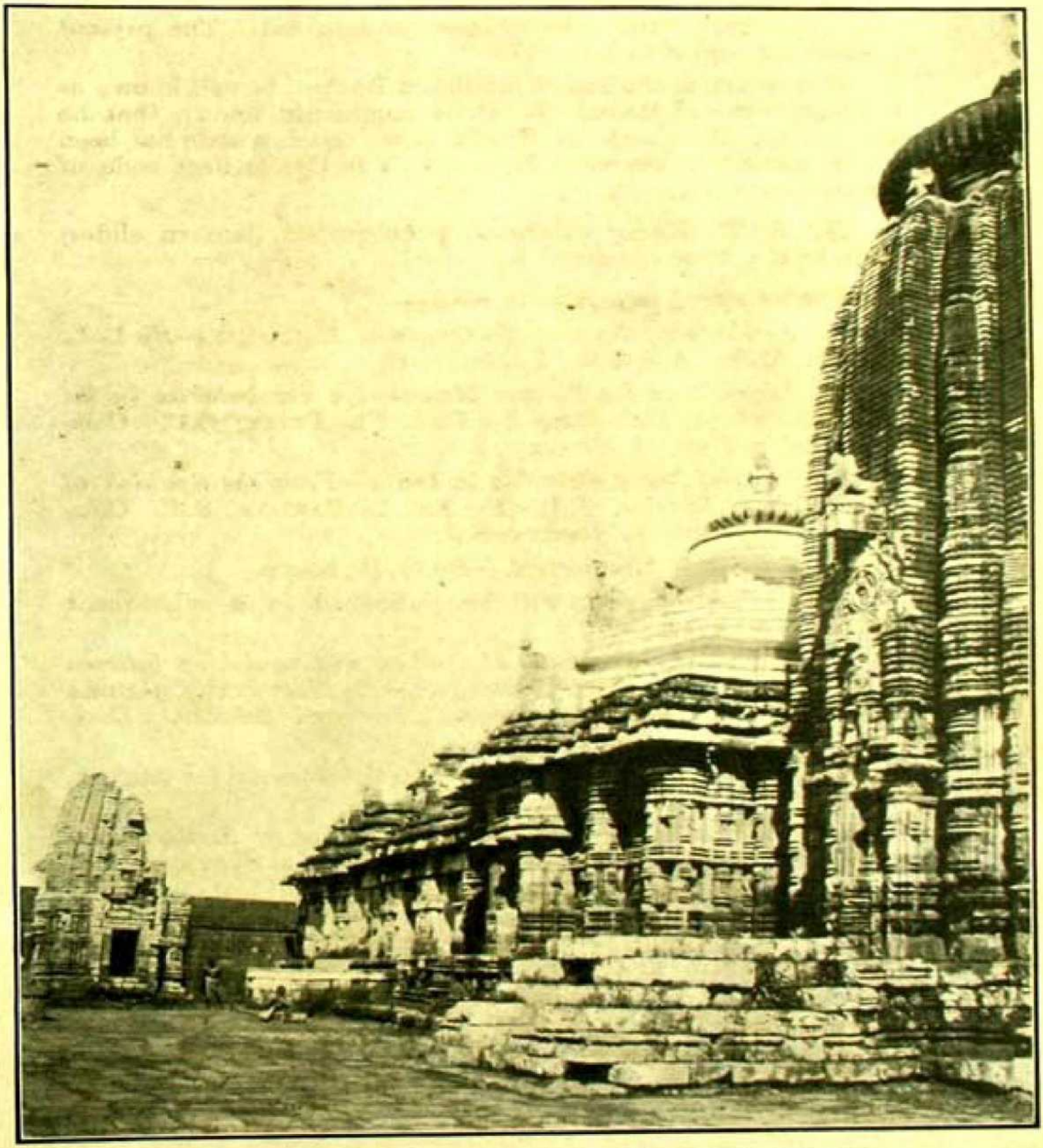
These three papers will be published in a subsequent number of the *Journal*.

5. *A possible Chemical Method of distinguishing between Seasoned and Unseasoned Teak-wood.—By* Anukul Chandra Sircar, M.A., F.C.S., *Premchand Roychand Scholar. Communicated by* Mr. E. R. Watson.

This paper has been published in the *Journal* for August, 1912.

6. *A Biography of Santi Deva, the author of Bodhicaryyavatara.—By* Mahāmahopādhyāya Haraprasād Śāstri, C.I.E.

This paper will be published in a subsequent number of the *Journal*.



FIG, 1. GENERAL VIEW FROM THE SOUTH—WEST.

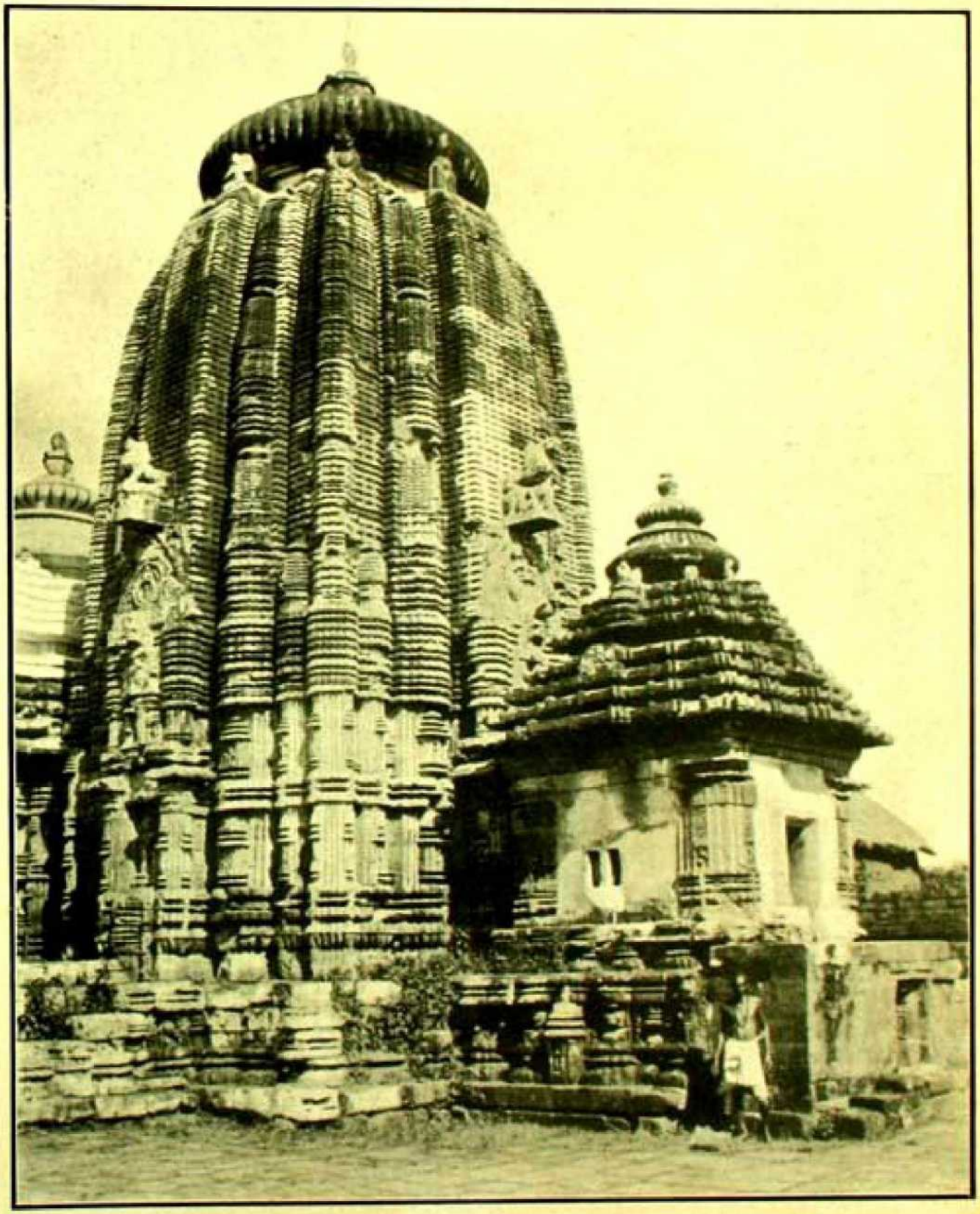
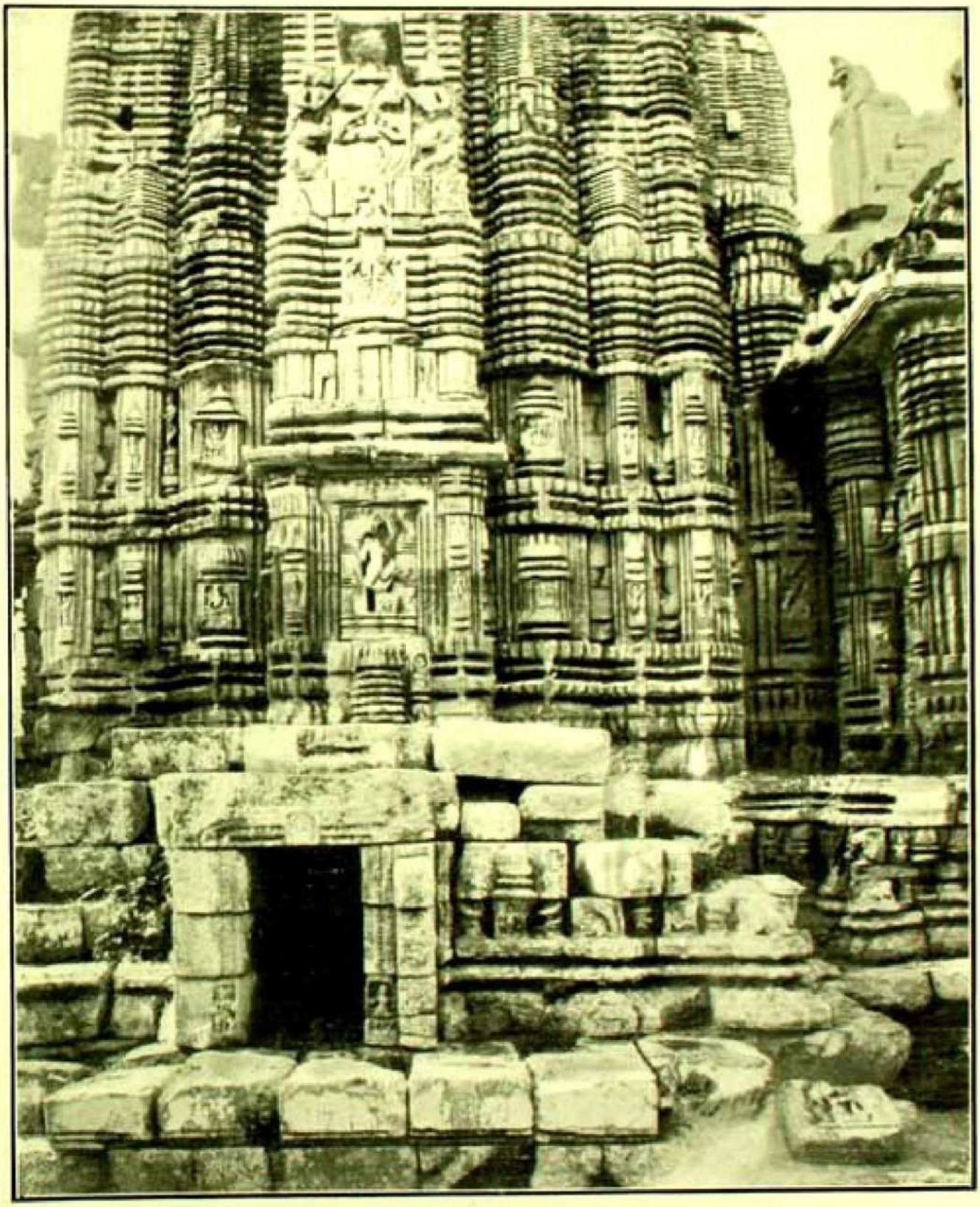


FIG. 2. TOWER FROM THE SOUTH—WEST.



FG. 3. CARVINGS AND MOULDINGS ON THE TOWER.

FIG. 4. CARVINGS ON THE PORCH.

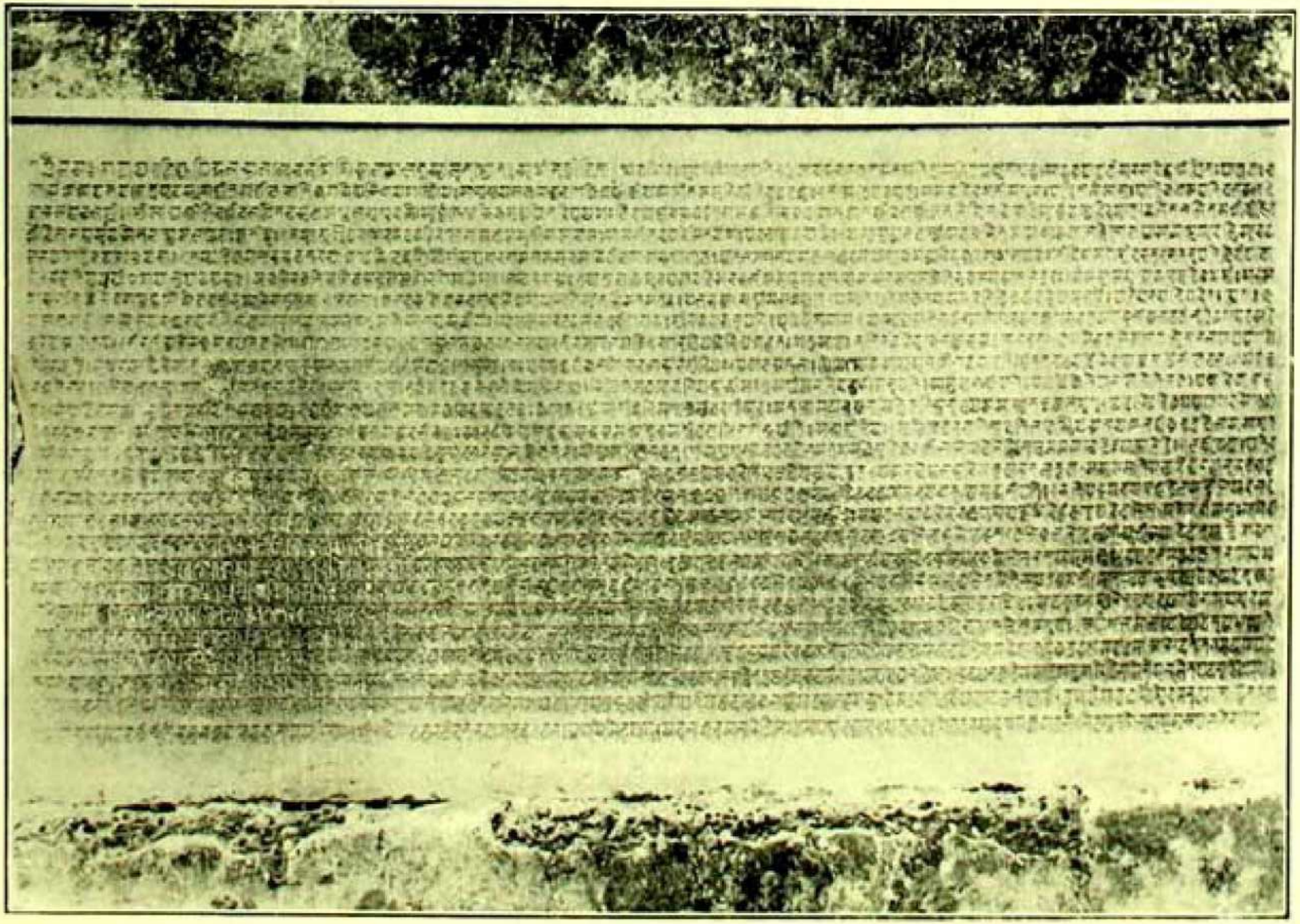
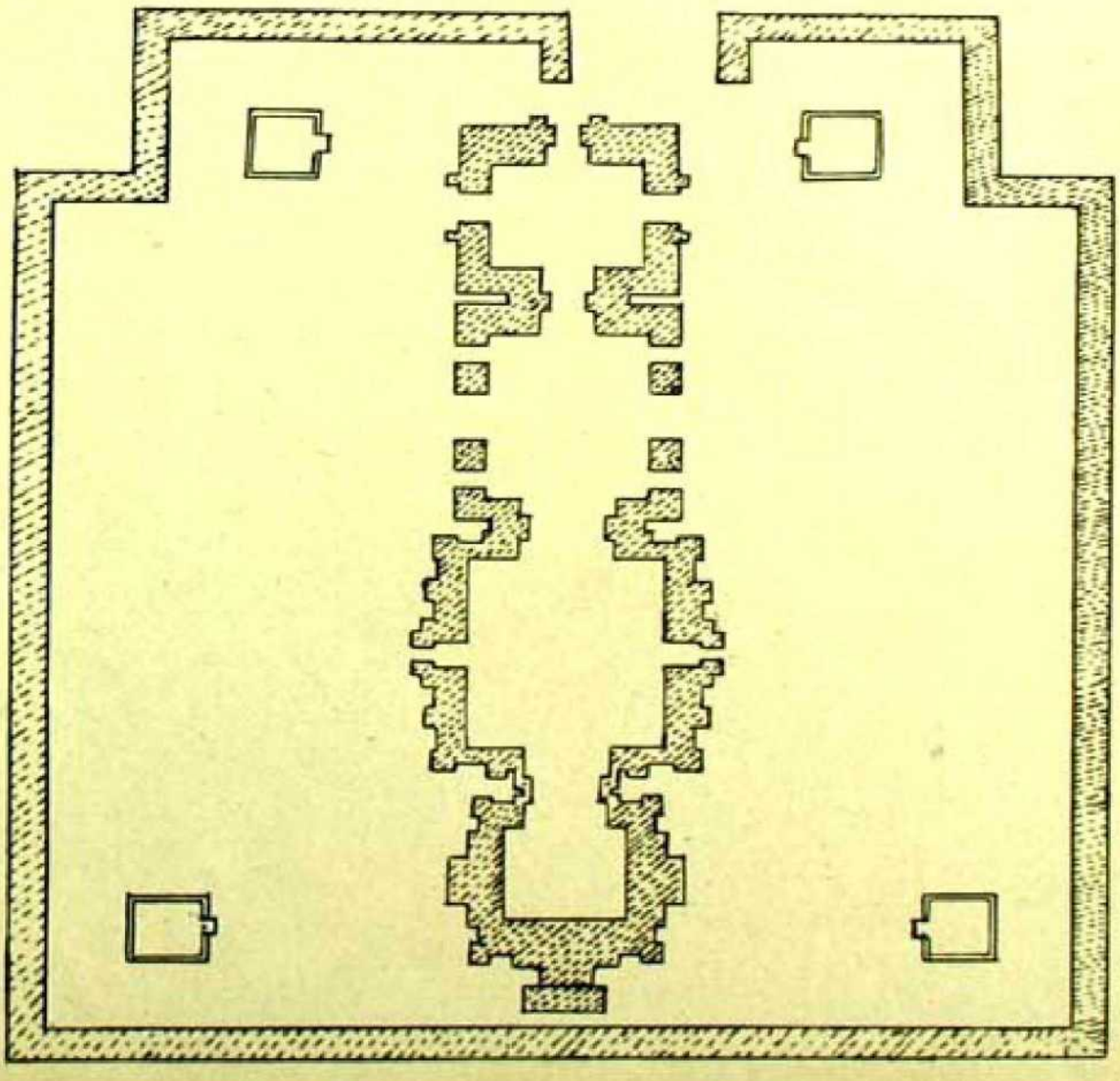


FIG. 5. INSCRIPTION OF THE TEMPLE.

MUGHAL COINS OF JŪNAGADH. N.S.XIX. ART.114.

GROUND PLAN
TEMPLE OF ANANTA-VASUDEVA
BHUBANESWAR.

SCALE ABOUT 37½ FT. = 1" IN.



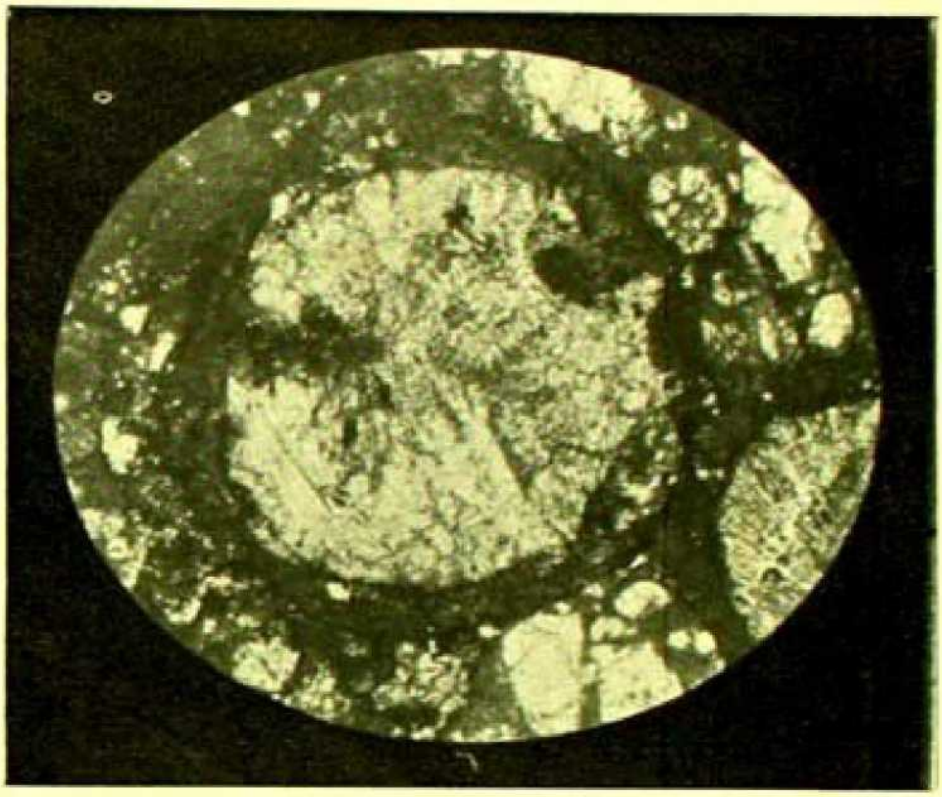


FIG. 1.—Chondrule of enstatite from the Khohar meteorite, showing a rim of metallic iron ×32.

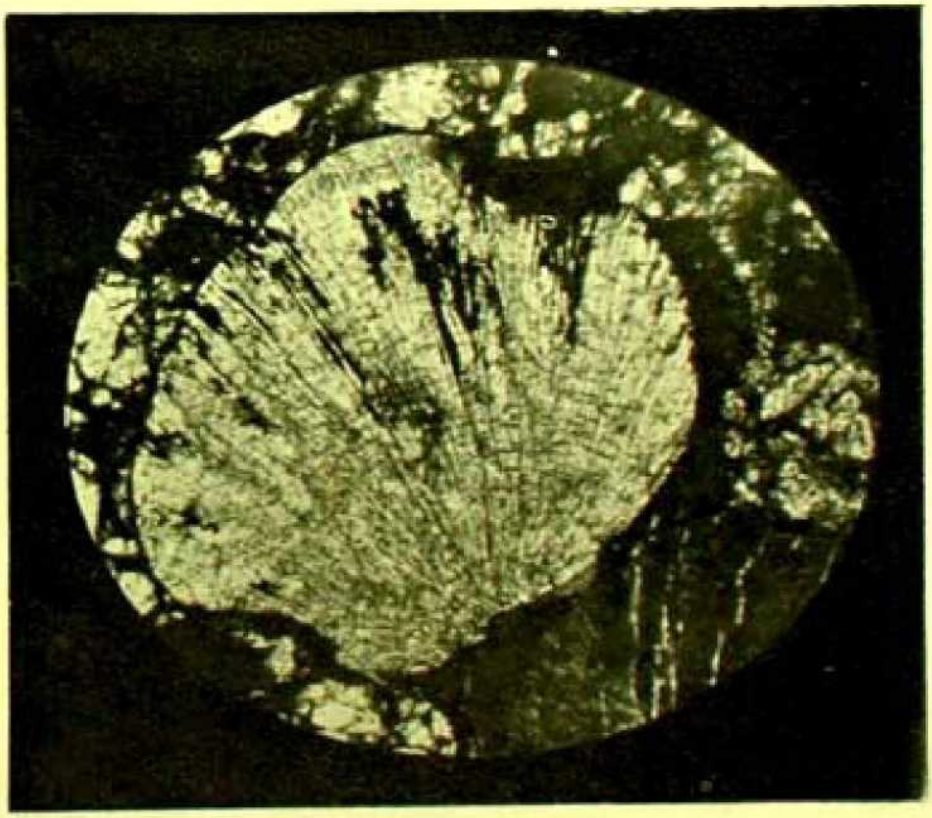


FIG. 2.—Radiate chondrule of enstatite from the Khohar meteorite. ×32.

NOVEMBER, 1912.

The Monthly General Meeting of the Society was held on Wednesday, the 6th November, 1912, at 9-15 P.M.

D. HOOPER, ESQ., F.C.S., F.L.S., F.A.S.B., in the chair.

The following members were present :—

Mr. E. A. Andrews, Capt. T. L. Bomford, I.M.S., Mr. J. C. Brown, Mr. B. L. Chaudhuri, Dr. W. A. K. Christie, Rai Bahadur B. A. Gupte, Mr. W. Jessop, Surgeon-Captain F. F. MacCabe, Capt. R. B. Seymour Sewell, I.M.S., Aga Mohammad Kazim Shirazi, Mr. G. Stadler, Mr. E. Thornton, Dr. Satis Chandra Vidyabhusana, Rev. J. Watt.

The minutes of the last meeting were read and confirmed.

Two hundred and eleven presentations were announced.

The General Secretary reported that Mr. B. De and Major H. J. Walton, I.M.S., had expressed a wish to withdraw from the Society.

The General Secretary also reported that the following gentlemen had been elected Ordinary Members during the recess in accordance with Rule 7.

Bahadur Singh Singhi.
Mr. T. P. Ghosh.
Dr. Philip Lechmere Stallard.
Mr. H O. Bolton.

The following two gentlemen were balloted for as Ordinary Members :—

Mr. H. G. Tomkins, C.I.E., F.R.C.S., Accountant-General, Bengal, 9 Riverside, Barrackpore, proposed by Col. G. F. A. Harris, C.S.I., seconded by Dr. E. P. Harrison; *Pandit Manana Dube*, B.A., Tahsildar, District of Ballia, United Provinces, proposed by Mr. A. Venis, seconded by Mahamahopadhyaya Haraprasad Shastri, C.I.E.

Mr. J. Coggin Brown exhibited some Stone Implements from the Yunnan Province, China.

The collection exhibited consists of 53 specimens of stone implements of neolithic age, obtained during the course of extensive travels in the province of Yunnan, Western China. The greater number are stone axes and wedges of various sizes but hammer stones and an interesting shouldered celt, similar to types previously discovered in the Laos and in Upper Burma,

are also represented. A small collection of jadeite implements from Yunnan, already described in the *Journal* of the Society, is also exhibited for comparison.

The following papers were read :—

1. *The Marriage Ceremony and Marriage Customs of the Gehara Kanjars. By* W KIRKPATRICK.

This paper will be published in a subsequent number of the *Journal.*

2. *On Isomeric Allylamines. By* Dr. P. C. RAY and RASIK LAL DATTA.

3. *The Preparation and Decomposition of Monochloro- and Dichlorobenzylamines. By* RASIK LAL DATTA. *Communicated by* Dr. P. C. RAY.

4. *Action of Stannic Chloride on Phenylhydrazine. By* JITENDRA NATH RAKSHIT. *Communicated by* Dr. P. C. RAY.

These two papers will be published in a subsequent number of the *Journal.*

The Adjourned Meeting of the Medical Section of the Society was held at the Society's Rooms on Wednesday, the 27th November, 1912, at 9-30 P.M.

COLONEL G. F. A. HARRIS, C.S.I., President, in the chair.

The following members were present :—

Dr. C. H. Elmes, Major E. D. W. Greig, I.M.S., Dr. W. C. Hossack, Captain F. P. Mackie, I.M.S., Lieut.-Col. A. H. Nott, I.M.S., Dr. J. E. Panioty, Major J. W. F. Rait, I.M.S., Captain J. D. Sandes, I.M.S., Honorary Secretary.

Visitors :—Captain J. H. Burgess, I.M.S., Captain R. B. Lloyd, I.M.S., Col. F. Smith, R.A.M.C., Lieut.-Col. W. D. Sutherlands, I.M.S

The minutes of the last meeting were read and confirmed.

Dr. Hossack read a paper on Dengue and its relations to three and seven-day fever. He expressed the opinion that these diseases were the same, and that according to our present knowledge we have no reason for differentiating them. Col. Harris, Lt.-Col. Nott, Lt.-Col. Smith, Captain Burgess and Dr. Elmes also spoke. The discussion on the paper was postponed till the following meeting of the Medical Section.

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DECEMBER, 1912.

The Monthly General Meeting of the Society was held on Wednesday, the 4th December, 1912, at 9-15 P.M.

MAHAMAHOPADHYAYA HARAPRASAD SASTRI, C.I.E., Vice-President, in the chair.

The following members were present:—

Maulavi Abdul Wali, Dr. N. Annandale, Mr. A. C. Atkinson, Dr. Siva Nath Bhattacherjee, Mr. J. C. Brown, Mr. B. L. Chaudhuri, Dr. W. A. K Christie, Mr. F. H. Gravely, Hon. Mr. Justice H. Holmwood, Rev. H. Hosten, S.J., Dr. G. E. Pilgrim, Capt. R. B. Seymour Sewell, I.M.S., Mr. T. Southwell, Mr. G. Stadler, Dr. Satis Chandra Vidyabhusana, Rev. A. W. Young.

Visitors:—Pandit Nānu Rām Brahmavāt, Mr. J. McDougall, Mr. E. A. Southwell, Mr. M. Tonnet.

The Minutes of the last Meeting were read and confirmed.

Thirty-eight presentations were announced.

The General Secretary reported that the Most Rev. Dr. R. S. Copleston, D.D., and Major R. H. Maddox, I.M.S., had expressed a wish to withdraw from the Society.

The General Secretary also reported the death of Mr. W. H. Buchan, I.C.S.

The Chairman announced that Dr. Annandale had returned to Calcutta and had taken charge of the duties of the Anthropological Secretary from Captain Sewell, I.M.S.

The Chairman laid on the table the following appeal for contributions to the Busteed Memorial Fund:—

Early in the present year there died, at the age of 78, Brigade-Surgeon Henry Elmsley Busteed, M.D., C.I.E., formerly in the Medical Service of the Honourable East India Company.

Those who were in India during the last quarter of the nineteenth century, and all who are interested in the stirring tale of the rise of British power in that country, must be sensible of the great debt due to Dr. Busteed for the sagacious and indefatigable researches which he conducted into the history of "Old Calcutta," for the light which he threw upon the life and conversation of our countrymen in that city, and for the graphic pictures drawn by his careful pen of one of the most momentous periods in the growth of our Indian Empire, the days of Warren Hastings and Impey, of Francis and

Clavering, and Madame Grand. It is not too much to say that Dr. Busteed re-discovered "Old Calcutta," and brought to life again a crowd of interesting figures who once trod that famous stage.

It is felt that some memorial of him should be placed in the Premier City of India, which he loved so well, and which owes so much to his inexhaustible knowledge and untiring erudition; and it is thought that not only his personal friends, but also those who have read with delight his fascinating "Echoes from Old Calcutta," would be glad to contribute to such an object. The nature of the Memorial must obviously depend upon the amount of the fund raised for this purpose, but it is hoped that it may be possible to place a bust in the Victoria Memorial Hall in Calcutta which is now in course of erection, and will, when completed, be the National Gallery and Valhalla of India.

Contributions will be gladly received, in England, either by Sir James Bourdillon, "Westlands," Liphook, or by Messrs. Richardson & Co., 25, Suffolk Street, Pall Mall; and in India by Messrs. Grindlay & Co., Calcutta.

S. C. Bayley. Curzon of Kedleston.
J. A. Bourdillon. H. Mortimer Durand.
Henry Cotton. A. S. Lethbridge.
A. W. Croft. Mac Donnell.
E. Denison Ross.

The following gentleman was balloted for as an Ordinary Member :—

Babu Chandra Kumar Agarwala, Tea planter, Tamulbaria Tea Estate, proposed by Babu Rakhal Das Banerji, seconded by Mr. S. W. Kemp.

Mr. F. H. Gravely exhibited living specimens of Pedipalps from the Puri District.

The specimens belong to the species *Phrynichus reniformis*, L., which has not previously been found as far north as Orissa.

Mr. B. L. Chaudhuri exhibited specimens of fish collected by Mr. S. W. Kemp in the Abor country.

Only a few of the fishes out of a large number collected by Mr. S. W. Kemp during the Abor Expedition are exhibited. Four of these are believed to be new species, viz. one Nemachilas, an Oreinus, a Macrones and a Moringua found in the water-supply. Besides these there are two well-marked varieties of Rasbora and Macrones. Some of the rare and interesting specimens collected are also exhibited.

Pandit Nānu Rām Brahmavāt exhibited MSS. of Prthviraja Raso and read a note thereon. Communicated by Mahamahopadhyaya Haraprasad Sastri, C.I.E.

Two manuscripts of Pṛthvīrājarāso were exhibited. One is supposed to be a fragment of what Cānd Kavi wrote, and the second purported to contain additions made by his son Jhalla. He showed how these two versions differed from the edition printed at Benares and also explained how the "Prthvirājarāso" from a small beginning of 5000 *slokas* had assumed a gigantic proportion.

There are two opinions about the genuineness of Prthvirājarāso. The school of Mahāmahopādhyāya Syāmaladās Kavirāja maintains that it is a forgery of the 15th century, while Mohan Lāl Bissen Lāl Panḍeya and his school maintain that it is the genuine work of Cānd written in the 12th century A.D. Nānu Rām is a descendant of Cānd and he starts a new theory of gradual accretion.

The following papers were read:—

1. *Fragments of a Buddhist work in the ancient Aryan language of Chinese Turkistan.—By* Dr. Sten Konow.

This paper will be published in the *Memoirs*.

2. *The Portuguese Inscriptions in the Kapalesvara Temple, Mailapur, Madras.—By* Rev. H. Hosten, S.J.

3. *Contributions to the Biology of the Lake of Tiberias.* No. 1. *An account of the Sponges.—By* N. Annandale, D.Sc., F.A.S.B.

These two papers will be published in a subsequent number of the *Journal*.

4. *The Ash of the Plantain* (Musa sapientum, *Linn.*). *By* D. Hooper.

This paper has been published in the *Journal* for November 1912.

5. *On a newly discovered Gupta Inscription at Mandasore. By Mahamahopadhyaya* Haraprasad Sastri, C.I.E.

6. *A short note on Ayi Pantha, a newly discovered cult in the Biluda District of the Marwar State.—By Mahamahopadhyaya* Haraprasad Sastri, C.I.E.

These two papers have not yet been submitted to the Publication Committee.

The Adjourned Meeting of the Medical Section of the Society was held at the Society's Rooms on Wednesday, the 11th December, 1912, at 9-30 P.M.

Major L. Rogers, C.I.E., I.M.S., in the chair.

The following members were present:—

Dr. Gopal Chandra Chatterjee, Dr. Harinath Ghosh, Dr. W. C. Hossack, Lieut.-Col. F. P. Maynard, I.M.S., Captain D. McCay, I.M.S., Lieut.-Col. A. H. Nott., I.M.S., Major G. F. A. Rait, I.M.S., Captain J. W. Sandes, I.M.S., Honorary Secretary.

Visitors:—Captain Green Armytage, I.M.S., Dr. Jenkins, Captain R. B. Lloyd, Dr. Nanilal Pan, Col. F. Smith, I.M.S.

The minutes of the last meeting were read and confirmed.

I. Clinical cases were shown.

II. The discussion on Dr. Hossack's Paper on Dengue was resumed.

Lieut.-Col. Nott, Lieut.-Col. Smith, Major Rogers, Major Rait, Major McCay and Dr. Chatterjee spoke, and Dr. Hossack replied.

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LUCKNOW.

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I Coins of Shāh Shujā'— Art: 116. N. S. XX.

II. Sassanian Dirhams — Art: 117.

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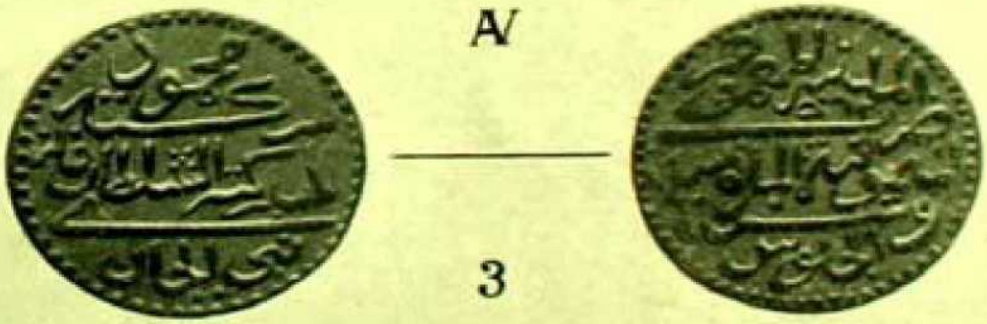

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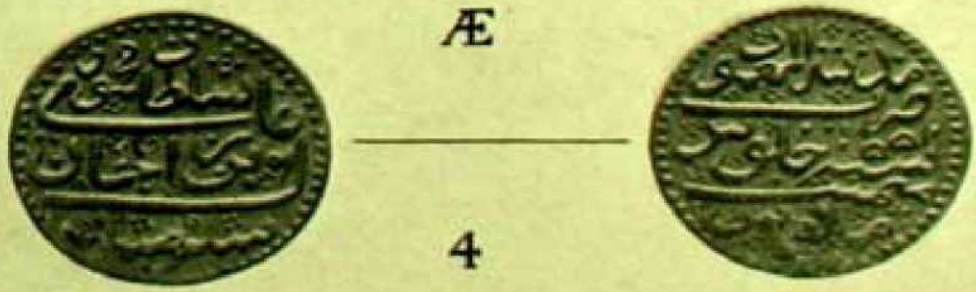

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Coins or Medals from Karnūl—Art: 121, N. S. XX.

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